A Disciplinary Matter? The case for a multilevel comparative approach for understanding the Bologna Reform

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CATS	British Credit Accumulation and Transfer Scheme
CRUS	Rectors' Conference of the Swiss Universities
CSS	Swiss Science Council
DfES	Department for Education and Skills (United Kingdom)
DS	Diploma Supplement
ECTS	European Credit Transfer and Accumulation System
EEA	European Education Area
EHEA	European Higher Education Area
ENQA	European Association for Quality Assurance in Higher Education
EUA	European Universities Association
HE	Higher Education
HEFCE	Higher Education Funding Council for England
HEI	Higher Education Institution
ISO	Dutch National Students Association
IU	UK Higher Education International Unit
LSVB	Dutch Students Union
NVAO	Dutch-Flemish accreditation organisation
OAQ	Swiss Centre of Accreditation and Quality Assurance in Higher Education
OCW	The Ministry of Education, Culture and Science (Netherlands)
OECD	Organisation for Economic Cooperation and Development
QA	Quality Assurance
QAA	Quality Assurance Agency (United Kingdom)
SCOP	Standing Conference of Principles (United Kingdom)
SUK	Swiss University Conference
UK NARIC	National Recognition Centre for the United Kingdom
UUK	Universities UK
VSNU	Association of Universities in the Netherlands

Chapter 1 Introduction

1.1 The context for study

The Bologna Declaration, signed on 19th June 1999 by the Ministers or deputy Ministers of 29 European countries, has been seen by many as the start of a new phase for higher education in Europe. Now signed by 47 countries, the declaration was intended both to enhance the role of the university in continuing economic and cultural cohesion and development in Europe, particularly through the development of a knowledge economy and a mobile workforce, and to create a highly competitive European Higher Education system. This new phase has potentially far reaching implications, not only at the European level - where education has long remained outside the remit of European institutions - but for, and within, national systems.

The Bologna declaration is critical for a number of reasons. Although it is only one event in a long story of increased European level involvement in higher education, it has broken new ground. The major stages of European involvement including the Bologna declaration and follow-up meetings are illustrated in figure 1.1 below. This is intended only to give an overview of the broad timing of change and breadth of reach of the process, and as such major recent changes running alongside the Bologna Process, such as the Lisbon process, are not included (for more detail on this see Keeling 2006; Capano and Piattoni 2011). Primarily the story is one of careful balance between addressing shared problems, furthering the role of the institutions of the EU, and respecting the individuality of the member states, and higher education as a matter of national interest.

<figure 1.1 >

This story has also been dominated by a tension between cultural and neo-liberal motivations. At the European level the definition of education as cultural or vocational has been of crucial importance in determining the extent of supranational involvement. *Vocational training* had been included in the Treaties of Rome whereas *education* had not. A groundbreaking ruling by the European Court in 1985, the Gravier case, neatly paved the way for greater and more widespread intervention without further justification (Neave 2003). The use of the 'vocational' card was met with much opposition, not from member states whose views were increasingly in line with this proposition, but from numerous individual universities. Neave (2003) outlines

four consequences of this protest; 1. it reasserted the historical role of the university; 2. it brought focus back to the original social and cultural justification for European level involvement in higher education; 3. it provided evidence of doubt in the wisdom of viewing education in market terms; and 4. it shaped the conception and drawing up of the Bologna Declaration.

The Bologna Declaration was new in that it crossed into previously unchartered territory. It followed the *Joint declaration on harmonisation of the architecture of the European higher education system* signed by the education ministers of France, Italy, Germany and the United Kingdom at the Sorbonne the previous year. This shared commitment to common goals in an area which had remained the preserve of national governments, without any push from European organisations, proved highly controversial, particularly with the use of the term harmonisation (Corbett 2003; Ravinet 2005), but it created wide interest in the idea of a European Education Area among national leaders, and resulted in the commissioning of the first of the so-called Trends reports giving an overview of structures and developments across Europe (Haug and Kirstein1999).

Participation in the Sorbonne declaration can be interpreted – for France, Germany, and Italy at least – as being driven by the desire to justify reform at the national level by means of action at an international level (de Wit 2000; Hackl 2001). The issue was not just one of finding solutions to shared problems of recognition, but also of facilitating change that had already been planned. In both France and Italy, the suggestion of reform had previously been met by massive public protest, and in Germany by dissatisfaction from the Länder (Hackl 2001). The participation of the United Kingdom could also be considered a strategic low-cost move, as the changes that were being suggested were only a little different to the British system, and early participation in the process was potentially beneficial for later developments (Ravinet 2005).

The Bologna Declaration was only the next stage in the process started at the Sorbonne, but it is the stage which has received most recognition. The reason for this is twofold. Firstly, participation in the formulation of the declaration was much wider. Its development involved not four but 29 countries. In addition, although its acceptance can also be interpreted as a tool for solving national problems (DuClaud Williams 2004; Neave 2009), the Bologna declaration shows a strong and more

clearly stated respect for the academic community. With direct references to the *Magna Charta Universitatum* - signed by the rectors of universities across Europe and the world in which autonomy and freedom in teaching and research are explicit aims - the Bologna Declaration is clear in its commitment to respecting the autonomy of universities.

Secondly, the Bologna Declaration lays out concrete steps to be taken: fixed goals to be achieved in a fixed time frame – at the time by 2010, but at the Leuven meeting in 2009 activities were extended into the next decade – a marked change from the vague goals of the earlier paper. The objectives set out in the Bologna Declaration (1999) are as follows:

- the adoption of easily readable and comparable degrees through the use of a Diploma Supplement
- the introduction of a system based on two main cycles, undergraduate and graduate, where the first cycle is relevant to the European labour market and access to the second cycle is based upon successful completion of the first
- the establishment of a system of credits, such as the European Credit Transfer System (ECTS)
- the promotion of mobility by overcoming obstacles to mobility for students and teachers
- the promotion of European cooperation in Quality Assurance (QA)
- the promotion of the necessary European Dimensions in Higher Education
- to consolidate a European area of higher education taking full respect of the diversity of European cultures, languages, national education systems and university autonomy

The Bologna Declaration was one from which progress can be measured, and ministerial meetings have since been held every two years to chart progress and developments. Although the declaration is not legally binding, pressure to comply at the national level comes from both the annual reports of progress and the meetings of the Bologna Follow-up Group, and from national ministers. For universities, it comes from the national level, where ministers are keen to drive through particular changes which may pre-date the Bologna declaration (as in the case of France, Italy and Germany) or which are encompassed in the declaration. Further pressures at

both national and university level may also come from the academic community, and directly or indirectly from national or international students.

The Bologna declaration differs from the Sorbonne declaration in one other key area; although the term harmonisation is not to be found, there is a subtle shift from a focus on the *academic* towards *economic* benefits of increasing cooperation. In the Sorbonne declaration mobility is presented as a benefit to a student seeking his/her own area of excellence; in the Bologna Declaration it is mentioned in the context of employability and the continent's development.

1.2 The need for sub-national comparative research

This research originates from two main starting points. The first is the fact that the pressures for change in higher education, and the opportunities presented by European level developments, are not only felt at the national level. In fact it is undeniable that the most direct impacts of the Bologna declaration are felt in the structural changes occurring in universities and their faculties and departments. The second is that the implementation of policy in all organisations, and especially in the university, is dependent on context: a result of negotiation, tension and conflict rather than rational decisions and technical solutions (Trowler, 2002). It is therefore reasonable to assume that the impact and outcome of the Bologna Process may differ dependent upon the context of implementation within universities as well as within national systems. The practical application of the Bologna Process will be referred to in this thesis as the Bologna reform. Although the term reform implies change, and is generally associated with large scale change and improvement, it is acknowledged that this will not be the case in all departments.

This approach to the reform fills a gap in higher education research, as well as in studies of the Bologna Process more specifically. Looking to the literature, two major changes in higher education and in higher education research can be identified. The first is a focus on individual universities and academics as actors (Clark 1995; Trowler 1998; Henkel 2000; Reichert and Tauch 2003), the second on the internationalisation of higher education. It is somewhat surprising that these elements have seldom been considered simultaneously (Teichler 1999).

In addition, interest in comparative research in higher education, particularly in Europe, has grown, as has that in the Bologna reform as a topic for study (Teichler

1996; Neave 2009). In relation to the Bologna reform, national progress and Europe-wide patterns are analysed annually in the Eurydice papers produced by the European Commission Directorate General for Education and Culture, but the most comprehensive studies of the impact of the Bologna reform are the Trends papers produced bi-annually by the European Universities Association. In 2003 the perspectives of individual universities were also introduced into their analysis, reflecting the importance of change at this level (Reichert and Tauch 2003 and 2005; Crossier, Lewis and Smidt 2007). But the aim of these reports is to chart progress: Experiences are not systematically compared. Academic research has covered many aspects of Bologna, including the development of the process (Ravinet 2005), its success (Tauch 2004), its impact on policy making (Huisman and Van der Wende 2004b), and in-depth and comparative analysis of its impact in different national systems (CHEPS 2002; Dittrich et al. 2004; DuClaud-Williams 2004; Witte 2006). But generally comparative approaches are limited to the national level, and analyses of the changes that result from the reform in universities and departments do not include a comparative element.

The lack of comparative studies below the national level has a number of implications. Only by looking at changes that are taking place within universities can we gain a clear idea of what is actually happening as a result of the Bologna reform, rather than what is reported to be happening. In addition it is at this level that key issues such as changes in the balance of power of the state, the market and academic identities, or the tension between the vocational and cultural aspects of university education, and processes of convergence and divergence can be best observed in practice. This level is also of increasing importance in a European Higher Education Area. The increase in, and strengthening of, interaction at the European level provides new opportunities for academics, leading Hackl (2001) to suggest that the meaning of “diversity” in higher education will change, from national diversity to institutional and programme diversity. Understanding current changes in higher education in Europe necessitates analysis from both above and *below* the national level.

Finally, the university is widely recognised to be a unique organisation in terms of its internal structure, with high levels of autonomy and complex structures of decision making, however this is rarely addressed in the field of higher education studies

(Enders 2004). A comparison of changes occurring at and below the university level is a step towards reducing this deficit.

1.3 Approach

The main proposition underlying the research is that there are differences in the way the Bologna Process is received and the changes that result in individual universities. The study is based around three broad questions.

- How are universities responding to the Bologna Declaration?
- Do responses differ along national lines?
- Are there any other patterns to the response?

The final question reflects the exploratory nature of the research, a key aim being to consider useful alternatives to focussing comparative research across national systems.

Response is considered in three ways. Firstly, the level of compliance gives an indication of the success of the reform in relation to its officially stated goals, and provides a basis for quantitative analysis of the factors shaping this success. But compliance only tells part of the story. Academic actors are not seen as passive recipients of the reform, but as shaping, resisting and determining the changes that are made. It is recognised that the reform has been used as a tool at the national level. The question arises then as to whether the same has taken place in universities: where it is seen and taken as an opportunity at this level, and therefore potentially led to wider, unexpected, changes? Finally, response can be expanded to consider how the reform is viewed, as having had a positive or negative effect on the standard of education. This matters as when the reform is framed as expanding the European remit, or meeting national needs, it is uncertain at what cost. Is higher education suffering as a result?

To answer the research questions I use comparative case studies across two types of university in four different regions in Western Europe, and select a number of departments to be compared across the universities and national systems. The universities are selected using a most similar systems design, the choice of department is guided by the subject type. Data are collected in the form of documents, publications and website information from the national, university, faculty and departmental levels, expert interviews and an online survey.

To predict and interpret patterns in response, emphasis is placed on the context of reform, both in terms of the structures preceding the reform, and the culture and norms of higher education (after Perellon 2000). Drawing firstly on the literature concerning the transposition of European reforms in national contexts, and the nature of the university as a political system, the Bologna reform is framed as a pressure for change in a highly differentiated organisation. Based on the historical and sociological strands of new institutionalism, it is argued that, as higher education systems are institutions with accepted routines, roles, procedures, beliefs, and cultures, they have developed along particular paths which are not only resistant to change, but also shape the changes that can be made. The description of "higher education systems" as institutions is deliberately vague, as it is proposed that the routines and roles operate at different levels within the university, and those operating below the national level may be important in shaping response. Here, it should be noted that as a result of this multi-level approach the term "institution" in this thesis is used to refer to political institutions in the sense outlined by March and Olsen (1989), and not to an individual university. In this meaning the national system of higher education, or potentially the discipline, can also be an institution.

Within this context it is proposed that the amount of pressure, and resultant need for change resulting from the Bologna Process, will vary dependent on the compatibility between the values and structures required and those that were in place prior to reform. This fit determines the type of change necessary, "type" being defined using Hall's classification of first, second and third order changes (1993), and shapes the way in which changes can be incorporated into current structures (following Börzel and Risse 2000), which in turn will affect the response to the reform, and level of satisfaction, actors being less accepting of larger changes which challenge their core beliefs. On the other hand the level of compliance will not only be greater where less change is needed, but will also be affected by the ability of change agents to push through changes.

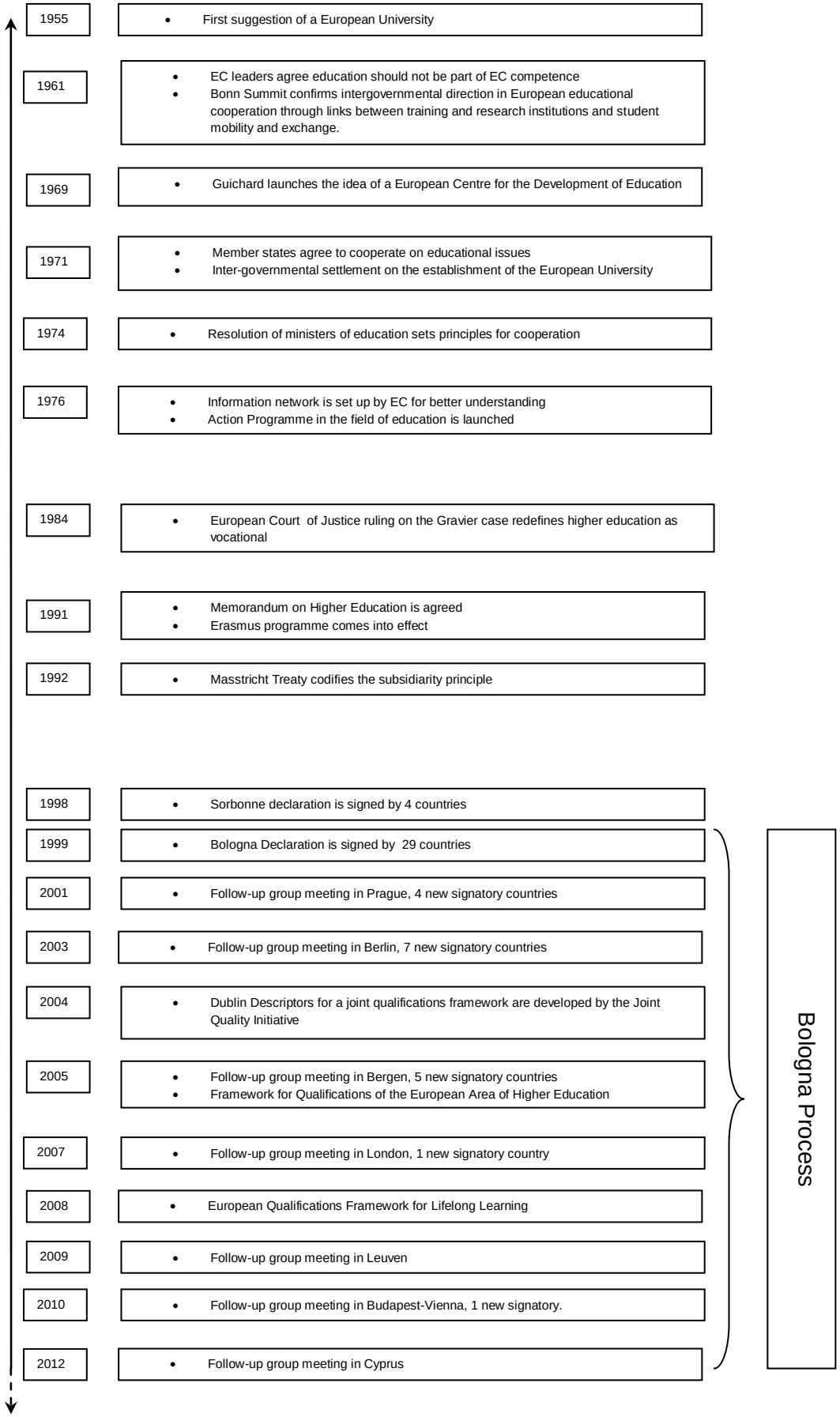
1.4 Structure

The theoretical and methodological approach is expanded in chapters 2 to 4. In chapter 2 the case for a university and departmental level analysis is argued, with the aim of questioning the assumption that the national level is the most important level for understanding the Bologna reform in Europe, and proposing the discipline as a

potential alternative. In chapter 3, the theoretical framework is constructed. Within this structure the likely conditions for change are outlined leading to the formulation of five hypotheses on where higher levels of compliance could be expected. In chapter 4 the choice of units, methods of data collection, and operationalisation of the dependent and independent variables are outlined and assessed.

Chapter 5 lays out the context for change, giving an overview of where decisions are made concerning higher education, and the Bologna reform specifically, in each of the national settings, and within the selected universities. This is used to indicate the room for manoeuvre in universities and departments and provide a basis for qualitative analysis of response. In chapter 6 the levels of compliance in each department are given, and the differences along national lines and below the national level are explored, before the hypotheses concerning compliance are tested quantitatively in chapter 7. In chapter 8, the two other elements of response are addressed to examine under what conditions the reform was seen as an opportunity for change and where additional changes occurred. The overall impact of the reform is also considered. In chapter 9 the key findings are reviewed, and the major reflections on the theoretical framework proposed and value of a multi-level approach are brought together in a conclusion.

Figure 1.1 Time line of ‘European’ involvement in Higher Education and the Bologna Process



Chapter 2 Pressures in Higher Education and the Need for Multilevel Analysis

This thesis aims to bring a different approach to analysing the Bologna reform. It will be argued in this chapter that due to the nature of the university, and the nature of the policy reform in question, a top-down system level approach, as shown in figure 2.1 can be improved upon.

<Figure 2.1>

The case is put forward for analysis of change resulting from the Bologna reform within universities, based on three main strands: 1. the external pressures on the university as a national institution, 2. the nature of the policy, and 3. the high levels of internal differentiation within universities as institutions. In the first part of this chapter I will consider the ways in which national systems vary and are being shaped by the national, supra-national and sub-national forces acting upon them. I will then, in the second part of the chapter, introduce the Bologna reform first as a process of internationalisation, and second as a process of both convergence and divergence, and show the importance of the sub-national level in these contexts. Finally it will be argued that in the university as a loosely coupled system, the variations in the "product" of the university – knowledge – means that there is good reason for turning the focus on individual universities, their faculties and departments, in considering the implementation of the Bologna reform and increasing understanding of how it is received and the impact it may have.

2.1 The university as a national institution: A triangle of tension

The importance of the national level in shaping higher education is clear when you consider the long and impressive history of universities in Europe, in many cases predating the nation state. Like the Church, universities have, since the establishment of the first European university in Bologna in 1088, been actively national, operating as sites for nation building. The University of Bologna itself was a symbol of Italian national unity, and modern day universities continue to contribute to the development of cultural cohesion and economic development (Neave 1996). The university plays a crucial role in shaping and reflecting the values of the nation, and just as the beliefs and values, laws and accepted ways of doing things differ from country to country, they differ between national university systems.

Within Europe, three types of university system are distinguishable in the approach taken to education and research, and in the nature of their relationship with the state. The Humboldtian model, which forms the basis for the present day Research University, is characterised by a close involvement of the state, but this involvement is limited in respect to teaching and learning. In this sense it could be said to have a dominant Collegium culture: Senior members of the university have freedom to pursue enquiry without interference from the government. In the Napoleonic university the focus is on professional training rather than research. The state maintains close control over financing, academic appointments, and the use of legal instruments with the aim of ensuring the national provision of higher education is uniform and the promotion of a national identity is based on formal equality and merit as defined and upheld by the national administration (Theisens 2004). While the development of universities in the United Kingdom was strongly influenced by the Humboldtian ideal, British Anglo-Saxon universities are 'often cited as an outstanding example of a university system enjoying immense institutional autonomy' (Neave 1998: 21).

The difference between these three models of university in Europe is one of the balance of power, originally between academics and the state, but increasingly between academics, the state, and the market. In the Napoleonic and Humboldtian model the university is protected *by* the state *from* external interests, although these models differ in the emphasis placed on research/training and the extent to which the state is involved in teaching and learning. These appear in contrast to the Anglo-Saxon model in which the university is protected *from* the state (Neave 2003). In this context the argument for national-system-based analysis of change in higher education is strong, but the starting point for critiquing the national approach is precisely the variation in the relationship of modern universities to the state, and the level of autonomy within national systems universities.

These traditional forms of university can be taken as a starting point for understanding the complex relationships between universities, the state and market forces associated with the Bologna Process (Neave 1998). The competing pressures in higher education institutions can be best modelled and understood through Clark's triangle of tension. In his 1986 work "The Higher Education System: Academic Organization in Cross-National Perspective", Clark outlines in detail the elements of

power in the university. These are reviewed below, before his model is applied to the case in hand.

Academic Oligarchy

The academic oligarchy refers to the complex array of academic authority found within universities, their faculties and departments. Academic authority may be highly personal, be based on collegial rulership, or be a balance of the two in the form of guild authority (Clark 1986). In each case professors have a large amount of control as to what occurs in their faculties and departments, legitimised through their knowledge of their discipline. Where 'knowledge is authority', power is pulled down to the level at which knowledge is most specialised – that of the department (Clark 1986). According to Clark, while certain decisions can be made further up, those which concern the immediate products of the university, teaching and research, are best and most often taken by the academic oligarchy in its many forms. These core areas are touched upon by the Bologna reform. The academic oligarchy need not be local, it can also operate at the national level through multiple specialised or more open academic organisations.

In addition to the discipline-rooted authority described here, academic authority is also located at the level of the university, or the enterprise level (Clark 1986). Authority at this level can take two forms; trustee authority, and bureaucratic authority. As with all forms of power discussed here, its importance varies between national systems. In the early 1980s Clark suggests that in the Humboldtian and Napoleonic models there is little power located at this level, whereas in Britain trustees and administrators play a more important role.

State

The term state can refer to a number of elements. In relation to higher education the state can be represented at the local, federal, or central level. It consists of bureaucracy and political authority, the former including intermediate organisations such as funding bodies, the latter governmental ministries, committees, and political parties. While the state is a powerful authority in higher education, the complexity and bottom-up nature of the system mean that central control is limited (Clark 1986).

Market

Clark emphasises that the market is different to academic and state authority in that it works without the benefit of a superstructure. It is therefore perhaps the least tangible of the three elements. It is helpful to consider the market as having a dual nature. On the one hand the market is made up of the unregulated exchanges of linked parts. If we look more closely however it becomes clear that 'unregulated' is in some cases misleading. Clark draws on Lindblom to identify three elements: the consumer market, the labour market, and institutional markets. The consumer market here refers to the users of higher education, the students. Student choice is regulated to the extent in that it is shaped by government policies through a number of mechanisms, including the role of secondary education in permitting access, and subsidised tuition fees and grants opening up individual's options, or their removal in closing down options as has been seen in the United Kingdom in recent years. The labour market, concerning the movement of academics, and the way in which universities interact with one another are however less regulated. In addition to these markets in and for education, marketisation is also associated with universities becoming increasingly responsive to the needs of industry and employers – a trend which is supported by the Bologna reform.

Clark positions these three elements as the points of a triangle. National systems or individual universities can be plotted within the triangle to illustrate the relative importance of these three elements in different contexts. The three major models of national systems in Europe, as illustrated by France (Napoleonic), Germany (Humboldtian) and the UK (Anglo-Saxon) could be shown as in figure 2.2

<Figure 2.2>

In Europe then the Napoleonic universities tend to be more dominated by the power of the state and less by the market, Humboldtian universities are also not highly influenced by the market but are located more equally between the state and the academic oligarchy, whereas the British universities are closer to the market and the academic oligarchy, with less influence from the state.

This situation is, of course, changing. The more recent history of universities in Europe sees both challenges to, and a strengthening of, state control, running parallel to the processes of internationalisation outlined in more detail below.

Generally speaking, for many years the university could be defined as a cultural institution enjoying academic freedom based on the principle of universal science, unconnected to, or constrained by, the 'trivial realities of economics' (Braun and Merrian 1999). Universities enjoyed a large degree of institutional autonomy, defined as 'that condition which permits an institution of higher education to govern itself without external interference' (International Association of Universities 1998). Autonomy in the form of the moral and intellectual independence of research and teaching from political authority and economic power forms one of the fundamental principles of the Magna Charta Universitatum (1988). From the 1980s however, this situation came under increasing criticism.

Massification ensured higher education was no longer the preserve of the elite. Increasing student numbers and the demands of wider society place new pressures on the staff and infrastructure of older universities. In its new role the university was seen as sheltered and unsuitably managed and was redefined as a public service institution. As in other areas of the state system, a new form of management was adopted, shaped by 'steering at a distance' associated with decentralisation, deregulation, and accountability, and underpinned by the basic idea that institutions should assume responsibility for their own futures (International Association of Universities 1998; Braun and Merrien 1999; Mora 2003). This clearly had implications for university autonomy.

State control at the university level can take two forms: Process control refers to control over the curriculum balance, the disciplinary profile, and the distribution of students between disciplines (the processes of the university) (International Association of Universities 1998); Product control includes assessment of the qualified output of the university, the type and level of students qualified, research completed and publications released, etc (Neave 1995). In the move towards steering at a distance, increased autonomy in the process domain is dependent upon increased surveillance over institutional performance in the product domain, as is clear from changing finance structures, increased performance monitoring and the rapid growth in quality assessment (Neave 1995; International Association of Universities 1998). It cannot be assumed that the more deregulated or modest the state, the greater the autonomy of the university, as the level of autonomy is dependent upon the conditions accompanying the state's apparent modesty.

Although it may appear that universities are becoming more autonomous and able to adapt to external pressures without state involvement, the state places a great deal of pressure on the institution to get it right, or more precisely, not to get it wrong. This process has not only shifted power towards the state, but also changed the nature of power remaining within the university: academic authority (meaning that of professors, individually or in aggregate) is described the "main loser" in massification as power is passed to the enterprise level bureaucracy (Teichler 1998:25).

Academic authority is not only threatened by the power of the state. Changes in this area are underpinned by the shift in understanding of what the university is, from the university as an autonomous cultural institution to the university as a market driven organisation. The changing view of the nature of higher education as vocational at the European level in the 1980s was occurring almost simultaneously at the national level (Neave 2003). Universities, traditionally places of pure learning, have become described in terms usually reserved for industry, with a focus on efficiency (Brunsson and Olsen 1993; Amos et al. 2002). Students and employers are clients of the university, the service provider. This can be framed in terms of a move towards the market.

At the institutional level, education may also be viewed as a commodity in that it can be a valuable source of revenue. The need to recruit international fee-paying students can be a strong driving force for some universities. Its importance will vary depending on the type of university, and where it is situated. Universities which are geographically and linguistically peripheral may be less pressed to promote themselves on the international market than those which are found in cultural capitals or countries using a dominant language, particularly English. As well as considering national policies, institutional type and location may also be of primary importance in understanding more localised responses to the Bologna declaration, and the prospects of the project (van der Wende 2001).

These changes can be plotted on to Clark's model as shown. In all three systems academic authority is decreasing, but at differing rates and from different starting points. In terms of power relations, as in terms of basic structures, the implementation of the Bologna reform is taking place in a heterogeneous environment.

<Figure 2.3>

In the move away from academic control illustrated in figure 2.3, we also see forces for convergence and divergence both within and between national systems. While similar terms have been used here to support the arguments that academic control is threatened from both the state and the market, the key difference between state and market control is that state authority implies aggregation whereas market control is a process of disaggregation. In terms of state control we see universities being pulled together with common standards and targets. Market forces drive universities into competition which emphasises difference or uniqueness, or may create linkages across and not within national boundaries.

As internationalisation and changes in the power of the state and the market associated with the Bologna Process have a dual effect on the cohesion of national systems (increasing it by national targets, reducing it by increased competition and international opportunities) and on the power of academics within universities (empowering them by international linkages, disempowering them by state control) it makes sense to address the way the Bologna Process is being received not only on a national level, or indeed an institutional level, but also by exploring what is happening within universities.

2.2 The Bologna Process as a university-led process of internationalisation

It has been mentioned above that the Bologna Process is a process of internationalisation, convergence and divergence, and one that can be best understood by looking below the national level. In this section I will clarify the terms used, and take a step towards considering a better basic model for approaching analysis of the Bologna reform.

Defining internationalisation involves two steps: firstly a clarification of the use of the term, and secondly a more pragmatic consideration of what activities are actually involved. It is important to consider the use of the term internationalisation as opposed to speaking of the globalisation or regionalisation (discussed in more detail below) of higher education, as it says much about how the Bologna Process is led. The key difference between globalisation/regionalisation and internationalisation is the *source* of the drive for increased international activity. Where national policies

encourage increasing cooperation and competition within, across, and between national systems we can speak correctly of a process of internationalisation (Huisman and van der Wende 2004a). Here we see the continued importance of the nation as an organisational, economic and political unit, but with increased cross-border activity. In other cases cross-border cooperation arises from formal or informal linkages between academic actors within universities, faculties and departments. Where this has a broad geographical spectrum, it is globalisation: the growth of processes which operate above and regardless of national borders, aided by new technologies, in which the power of the national system is, at minimum, challenged (Enders 2004; Rizvi and Lingard 2010). Regionalisation on the other hand suggests that the international, or global, dimension is strengthened only within a particular area.

In terms of the Bologna reform the distinction is blurred. The process is certainly international – the declaration was signed by national ministers, and in many cases led to distinct national policies – but at the same time it is highly regional: The Bologna Declaration was a move towards international agreement in an area which has previously remained the preserve of national governments and can therefore be interpreted as part of the European Union (EU) drive towards European integration at a cultural level (see for example Marga 2001; Keeling 2006). However, it is also a process which has developed partly outside the EU framework driven by academic leaders with the support of their member states (Fredriksson 2003), and which involves countries beyond those in the EU.

To this end, as internationalisation at the European level and beyond has become increasingly far reaching, the term “Europeanisation” of higher education has taken a key place in the literature (Teichler 1999; van der Wende 2001; Triandafyllidou and Spohn 2003; Ravinet 2005). Europeanisation is used to refer to two different processes leading to either the development of either a “European Space for higher education” or to a “European Higher Education Area”. While often used interchangeably, these two elements differ in what is being “Europeanised” and in terms of the platforms from which actors in higher education operate, and the distinction between them has methodological implications for research in this area.

A European space for higher education

In the concept of the European 'space' for education, Europeanisation is part of an international trend in higher education in which educational institutions are becoming more imbedded in society and increasingly separated from state control (Amos et al, 2002). It is essentially the growth of international cross-border operations within Europe as one response to global processes affecting higher education systems. As the Bologna Process opens up the possibility for increased interaction between universities on an international field, and these interactions can take place without the necessary involvement of the nation state, it can be seen as part of this movement (Neave 2003).

If actors in this European 'space' are deterritorialised their actions cannot be understood by traditional comparative approaches (Teichler 1996; Lawn and Lingard 2002). Lawn and Lingard (2002: 302) suggest that a 'post-comparative policy warp and weft' is forming across Europe in education (see also Amos et al. 2000, or for an example of the growth of a world polity Meyer et al 1997; Rizvi and Lingard 2010). Responses to external pressures are not necessarily 'national' as they come from within the university from actors acting in complex cross-national networks. So is a comparative approach still useful? Although this view is persuasive, it has been argued above that higher education systems are very much *national* bodies. The second mode for viewing the process of Europeanisation supports this contention and suggests comparative research has much to offer.

The European Higher Education Area

The European Higher Education Area (EHEA) or European Education Area (EEA) is associated with European intervention in education as an essentially 'European' project; that is, a response to problems felt across Europe in such a way as to promote the interests of the institutions of the EU and lead to the development of a stronger Europe (see for example: Corbett 2003; Neave 2003; Fredriksson 2003; van der Wende 2000). The shared problems are related to the massive growth of student numbers since the 1980s, with student populations in some countries, such as the UK and Sweden, doubling in the last two decades of the 20th century. This shift from elite to mass education has had structural, organisational, and functional consequences for universities which have set the context for the international developments taking place today (Teichler 1998). Massification has created an

environment in which universities across Europe are suffering similar problems and are looking to similar solutions to allow greater flexibility. The solutions include a number that are familiar from the Bologna Declaration such as the introduction of modules, use of credit points, and emphasis on social skills and individuality. The time limited degree structure proposed at the Bologna Conference is a sound solution to the increasing length of time taken for study across the continent.

In this latter analysis the Bologna reform is very much a process of internationalisation, indeed it is a key part of the development of the EHEA, but Lawn and Lingard's post-comparative analysis has something to offer in that it reminds us of the larger context in which the changes are being implemented: one where some university-level actors are more involved in developments than the national ministers may be, and where actors, as individual researchers, or as members of a research group or education institution, are involved in many other European and non-European activities. As a result, a middle way is advocated here in the form of an integrated approach in which the overriding importance of national differences is not assumed, but is allowed for.

As this thesis is focussed on the changes that are actually occurring, rather than the policies resulting from the Bologna Process, we can also consider the reform as a process of internationalisation from a more pragmatic standpoint. Internationalisation in this sense is "a process of integrating an international/intercultural dimension into the research, teaching and services function of higher education" (Knight 1993 in Wächter 2000). Knight (2003) and deWit (2002) suggest that processes of internationalisation can usefully be classified based on *where* the international activities are located: "at home" or "abroad", and the rationale driving internationalisation. Internationalisation at home refers to those activities that occur in the home campus, those abroad to activities that happen across borders. Examples at home include the introduction of new programmes, foreign language elements or joint degrees. Activities abroad include compulsory periods of study in another country, a university providing courses abroad physically or using new media, or the awarding of credit by a partner country. The Bologna Process includes activities in all of these streams, with particular emphasis on the development of international (European) curriculum and programmes at home and abroad, the movement of people, and international projects.

These activities occur at different levels within the university, and do not necessarily require coordination at the national level and are therefore not reliant upon national policies. Indeed, examining the rationales that drive internationalisation shows that the majority are located below the national level. DeWit and Knight identify four categories of rationales: social/cultural, political, economic, and academic, outlined in more detail in table 2.1. Of these, three – social/cultural, economic and especially academic rationales – are all likely to be strong drivers for implementing internationalisation policies within universities and their departments.

<Table 2.1>

Further to these categories, Knight and de Wit add a number of activities at the national and university level which cannot be neatly placed into exclusively one category. At the institutional level these include: International branding and profile, income generation, student and staff development, strategic alliances, and knowledge production. To this list we could also add the recruitment of international students to gain income and critical mass. All of these are forces which are operating below the national level.

It is clear then that to begin to understand the implementation and impact of the Bologna reform a university level approach is necessary. This is not new – as mentioned above the European Universities Association's (EUA) Trends papers include contact with institutional leaders and visits to institutions. However, these papers give an overall picture of the implementation in institutions across Europe, analysed also at national level. The aim here is to develop a theory-driven analysis of implementation in a small selection of universities. Moreover, it is suggested that analysis should not stop at the university level. The importance of the individual academic described above points to a potential for useful comparative analysis at the departmental level. This is explored in more detail in the final section.

2.3 Knowledge as power: The importance of the subject

In addition to the increased importance of market forces, there are two main themes which come out of the literature on higher education which suggest that to limit comparative research to the national level, or even to the university level, is to potentially ignore important differences. The first relates to the nature of the university as a loosely-coupled system, and the second comes back to Clark's triangle of

tension, and most importantly to the observation that knowledge is power. Each of these has implications both for research concerning policy change in universities, and for the implementation of the Bologna reform.

The nature of the university as an organisation doesn't always lend itself to traditional rational top-down approaches to organisational development and change. While these theories prove useful in many aspects, it is largely recognised that education systems often do not respond to changes in the ways that could be predicted (Weick 1976; Clark 1986; Enders 2004). The large number of different aspects involved in the internationalisation of a university - from the Dean's office through the international office, faculty boards, student organisations and individual professors - can be thought of as elements in loosely coupled systems (Weick 1976; Glassman 1973). The many elements are linked, but preserve their own identities, and the interactions between them may be weak, impermanent, and dissolvable (Weick 1976). It cannot simply be assumed that decisions made at the national level, even those agreed to at the university level, will invoke the desired responses at other points in the organisation.

These loosely coupled units are not only governed centrally, but also link to other similar units outside the university. Clark suggests that the discipline is the core organising factor in a university: given the choice of whether to leave the university or the discipline, most specialised workers would choose the former (Clark 1986). This brings us to the final argument for focussing on the units within the national system: the nature of knowledge and education.

Both knowledge and education are international. Some authors go so far as to argue that education is primarily a universal institution which has been particularised at the national level (see for example Amaral and Magalhães 2004; Amos et al. 2002). While this particularisation is clearly important, national cultures are not the only dividing lines along which views about knowledge and education differ. In his article on organising higher education in the knowledge society, Bleiklie (2005) discusses the nature of education as a social construction. The essence of education, he argues, can be considered in terms of vocational specialisation or in liberal generalist terms. It varies not only across time (as in the case of European intervention outlined above), and across countries (as in the referential models presented here), but also

across subject areas (Bleiklie 2005). Bleiklie identifies two main types of subject: The vocational specialised subjects include medicine, nursing, law or engineering; and the liberal generalist subjects being the arts and humanities. These can be compared to Becher's (1989) division between applied and pure subjects.

In addition to this distinction, the way in which knowledge is viewed can also differ. Bleiklie draws on Gibbons's distinction between mode 1 and mode 2 knowledge to talk about "*knowledge as outcome"*, and "*knowledge as procedure"*. Knowledge as outcome refers to practical knowledge, whereas knowledge as procedure can be defined as a 'set of cultural activities, or as a specific procedure like in traditional definitions of scientific method' (Bleiklie 2005: 46). These differences could also be thought of in terms of subject type. While Bleiklie adopts a rather more rationalist approach than will be taken here, these differences suggest that the type of university (for example vocational or research based, or specialised science university), and the subject area (for example scientific or arts, vocational or humanities) are important in determining how internationalisation processes are received and implemented.

Based on this, the disciplines are not just functional or structural divisions within the university, but have a profound effect on the way in which the university functions, and the way in which the fundamental purpose of the university is conceived (Becher 1989). This has two implications which may affect the Bologna reform. The first is that the discipline is the main driving force for action in the university's frontline tasks of teaching and research and "the characteristics of core membership groups affect everything else of importance in the organisation" (Clark 1986: 30). We could therefore expect that even within a particular university differences in implementation may occur between the different disciplines. The second is that the discipline is not nationally organised. Clark has observed that "it is the discipline mode of organisation that has rendered higher education over time and space basically meta-national and international" and this is increasingly so (Clark1986: 28). It therefore seems reasonable to ask whether the differences occurring between the disciplines may show some international similarities.

2.4 Conclusion

It has been shown that the field of higher education in Europe is experiencing many, often conflicting, pressures which are changing the sources and balance of power over and within the university. As a result any study of policy change needs to look not only at the national level, but also below that level to what is happening within the universities. As the national level still plays a key role comparative studies at that level remain useful, but they cannot be limited to the basic model employed in many studies of national differences in the implementation of the Bologna reform.

It is clear that focus on the national system ignores potentially important differences between universities as individual units which have traditionally enjoyed varying levels of autonomy. Furthermore it has been shown that within these units the discipline is an important organisational division and that, if the discipline has some explanatory power in terms of the outcome of the Bologna reform, it is not necessarily contained within one national system. It follows then that there may be patterns in response to the Bologna reform across disciplines internationally. As this study is exploratory, it is important to build the more stable factors assumed to affect implementation into the approach. A simplified diagram of the potential patterns for implementation is shown in figure 2.4 below. The vertical blocks represent universities in a national system, with varying interpretations of the national policy. The patterns across the subject areas represent the influence that subject area may have on the university policies which result from those made at the national level. The subject areas are arranged with the aim of showing the divisions within the universities along horizontal and not just vertical lines. It is not intended to indicate any hierarchy between subjects or a staircase of implementation.

This model will underpin the theoretical framework and the research design for this study in an attempt explore whether other levels of organisation and differentiation within national systems are important in shaping the response to the aims set out in the Bologna Declaration and therefore the success of the Bologna Process as a process of convergence. The three initial assumptions underpinning the model can be stated as follows:

1. There will be differences in compliance between universities in one national system

2. There will be differences in compliance between subject areas in one university
3. Similar levels of compliance will be seen in the same subject areas in different national systems.

<Figure 2.4>

The next step is to establish the theoretical framework for considering how the levels of compliance may differ across these multiple levels: between national systems, universities, and subject areas.

Figure 2.1 Bologna reform as presented in Trends Papers

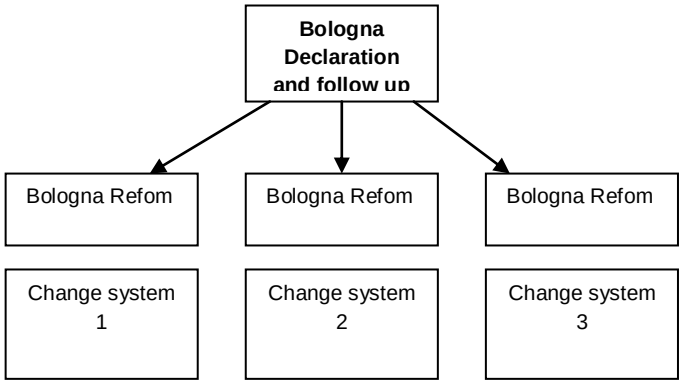


Table 2.1 Rationales underpinning internationalisation

Rationales	Constituent elements
Social/cultural	National cultural identity Intercultural understanding Citizenship development Social and community development
Political	Foreign policy National security Technical assistance Peace and Mutual understanding National Identity Regional identity
Economic	Economic Growth and Competitiveness Labour Market Financial Incentives
Academic	International Dimension to Research and Teaching Extension of academic horizon Institution building Profile and status Enhancement of quality International academic standards

(Kinght 2003; de Wit 2002).

Figure 2.2 The Triangle of Tension

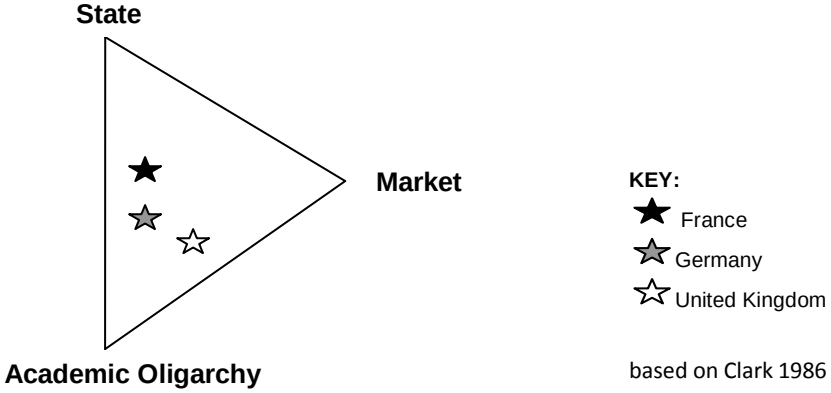
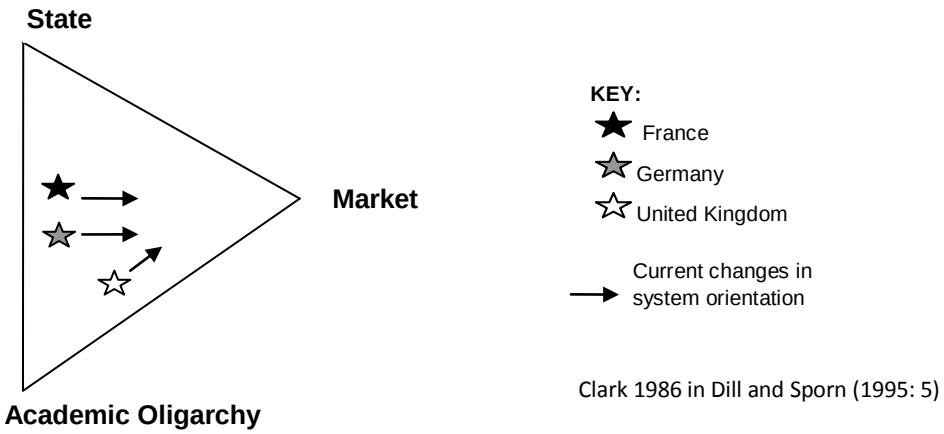
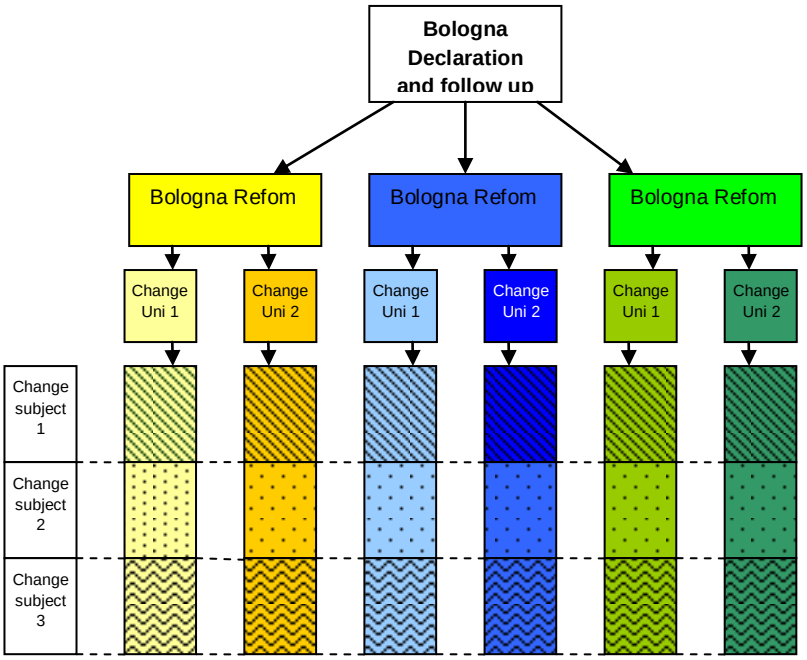


Figure 2.3 Recent changes in Clark's Triangle



Clark 1986 in Dill and Sporn (1995: 5)

Figure 2.4 Possible patterns of implementation of university reform



Chapter 3 Institutional Stability and Change

The aim of this chapter is to build a theoretical framework for understanding how responses to the Bologna reform may differ between and within universities and their departments. The starting point is the need to support and strengthen, in theoretical terms, the importance of the context of implementation outlined in chapter 2. In section one an institutionalist perspective will be used to show that the context of implementation is important in two ways. Firstly what is in place before the implementation of the Bologna Process (the structural elements) determines the amount and type of change that is required. Secondly, the Bologna Process, as an external change in policy, is mediated through the institutions in which it is implemented. Drawing on the work of March and Olsen (1989) the institution is defined in terms of the ideas and beliefs held by those working in higher education, which may differ at the departmental level. In the second section I will lay the foundation for theorising about the likelihood of compliance with the Bologna Process in different institutional settings, considering the inherent stability of institutions, and the potential drivers, or opportunities, for change. In section three I bring together the stories of stability and change to show how change may occur, and link this to compliance in two basic models: one where little change is required, the other where the reform requires change. In section four, five hypotheses are formulated to show where compliance with the Bologna reform can be expected to be greater. Within this framework it will be possible to identify patterns in levels of compliance with the internationally agreed aims, should they exist.

The emphasis on compliance in this chapter is due to the need for a measureable dependent variable to be used in the quantitative analysis. This choice of variable is outlined in more detail in section 4.4.1. Other elements of the response will also be touched on in the analysis and returned to in more detail in chapter 8.

3.1 The context for implementation

3.1.1 Structural elements

While the structural goals of the Bologna Process outlined in chapter 1 are the same for every signatory country, the pre-Bologna structures in Universities across Europe vary, so the amount of change needed to achieve them and the pressure exerted to change the current system is different. The extent of change can be classified in

terms of whether the resultant policies aim to change, adjust or maintain the behaviour of target organisations (Gorntizka 1999). Which of these is required is dependent on the 'goodness of fit', that is the compatibility of the aims of the Bologna declaration and later communiqués with what was already in place in universities and departments. The lower the compatibility between these structures, the greater the pressure to change or adapt (Börzel and Risse 2000; Risse et al. 2001). Indeed a lack of fit is a necessary condition for change (Börzel and Risse 2000). In some cases, for example departments in the UK where a Bachelor/Master structure is the norm, little pressure is asserted, whereas in others, such as Switzerland, Italy or Germany, the adaptational pressure is much greater.

From an institutionalist perspective, required change does not just vary in terms of amount, but also in type: in terms of the categories of things that are changing, and the kind of change which is necessary. These can be discussed in reference to Hall's (1993) paradigms of policy change. Hall defines three levels, or orders, of policy change. First order change is a change in the settings of policy instruments. Second order change is a change in the types of instruments used as well as their settings. Both of these levels are changes which are continuous with the 'normal' way of doing things. They do not require a change in the aims of policy, or, crucially, challenge the established truths (Hall 1993). Third order change – change in the instruments used, their settings, and the relative importance of the goals behind a particular policy choice – in contrast, is 'likely to reflect a very different process, marked by radical changes in the overarching terms of policy discourse' (Hall 1993: 279). Following the work of Kuhn, this change in what is 'normal' is framed in terms of a paradigm shift, a paradigm being defined as a 'framework of ideas and standards that specifies not only the goals of policy and the kind of instruments that can be used to attain them, but also the very nature of the problems they are meant to be addressing…this framework is…influential precisely because so much of it is taken for granted and unamenable to scrutiny as a whole' (Hall 1993: 279). A paradigm shift marks a break in the path of normal behaviour. In this case we can make a distinction between smaller changes that can be more easily accommodated into what is already being done, and more far reaching changes that challenge the norm. Which is necessary is, in part, related to the structures in place, and these may well vary not only country to country, but also between universities and their departments.

3.1.2 Institutional elements

Change is not just a direct result of external events putting pressure on current structures however, pressures are mediated through internal rules and beliefs concerning how things should be done; that is, through a particular institutional context (Hay and Wincott 1998). The context in this case is the national system, university or department, in which some forms of behaviour are promoted and others are constrained, both through formal rules and through a sense of shared values and meaning (Peters 1999). In this section I will explore how the institutional context affects the implementation of the Bologna Process through the examination of the effect on actor behaviour and crucially its function as a force for stability. It will be shown that institutional rules operating on a number of levels not only present limits to the amount or extent of change that can take place, but can also determine the *direction* of change. Both of these aspects can affect the level of compliance.

The study of academic institutions is not straight forward due in part to the university as a loosely coupled system and in part to the power and highly complex roles of individuals in the organisation. Let us take for example the position of a Physics professor in a university somewhere in England. She is a scientist, a researcher, a teacher, an academic, a co-ordinator of an international physics organisation, a student counsellor, an administrator, a member of numerous committees and working groups, etc. When a new policy (formal rule) requires her to spend more time on administration, let us say designing a new curriculum, does she take the time from her research, or from her student face time? Does she build her international interests into the curriculum, or is that an issue for postgraduate research? As Henkel and Kogan summarise, 'The prime mover in academic production, the individual academic, is a bizarre organisational and political phenomenon.' (1999).

Despite the loosely coupled organisational structure and high level of freedom, such decisions are made not only based on personal preference, but occur in a context where a specific choice may be more viable, or considered more appropriate. This context is shaped by a specific set of written and unwritten rules. March and Olsen (1989: 22) the forefathers of the new institutionalism, define institutional rules as

> "the routines, procedures, conventions, roles, strategies, organisational forms, and technologies around which political activity is constructed… the beliefs, paradigms, codes, cultures and knowledge that surround, support, elaborate and contradict these roles and routines"

Institutional rules do not determine the behaviour of the individuals working within the institution, they provide the framework within which human action and interaction takes place (North 1990). Within this framework actors still retain a large amount of agency (Scott 2001). Agency is derived from two sources. Firstly, within the given rules, actors decide on the correct action to take: doing what they consider appropriate for themselves in a given situation (March and Olsen 1989). As a result, a number of behaviours are possible from actors with similar roles in similar situations. Secondly, as institutions consist partly of shared beliefs and ideologies, they are shaped by the actors whose behaviour they shape (North 1990).

Institutional rules are not limited to the system level, but operate at different levels (Scott 2001). In the case of higher education, within universities, cultures are strong. Dill (1982) suggests that two key differences between universities and other organisations increase the importance of culture and rules at this level: staff are selected on their ideological beliefs, and policy is determined based on shared values and beliefs. But academic cultures are not organised primarily at the university level. Drawing on Geertz's (1983) ethnography of disciplines, and a number of interviews with academics across Britain and the USA, Becher's (1989) *Academic Tribes and Territories* shows the discipline to be key in shaping academic identities through shared language, symbols, traditions, customs, practices, morals, belief and knowledge. The strength of the discipline as a unit of organisation pulls against structural integration at the system and university level (Henkel 2000; Kogan 1997; Dill 1982). Moreover, although Becher accepts the likelihood of geographical variation, there is a strong tradition of the discipline-based view of cultures as international (Välimaa 1998). Polyani's (1962) classic outline of "The Republic of Science" suggests that the cultures of disciplines are extraterritorial. The role of the discipline as an (potentially) international institution is embraced in the research design adopted here, but with allowance for the operation of nationally-based cultures.

For the purpose of this thesis it is key to understand the role of institutional rules during times of change. This begins with the division between formal and informal rules. While formal rules are written and often legally binding, informal rules include the beliefs, paradigms, codes, cultures and knowledge of March and Olsen's definition. They are often more difficult to identify than written formal rules, but the fact that the same formal rules have different outcomes in different institutional contexts is clear testament to their importance (North 1990). It is not always clear whether a rule is formal or informal: One can consider institutional rules as lying on a continuum. In addition, the status of a rule may change: Informal constraints can be solidified in written laws, and designating new formal rules can lead to the development of a host of informal rules which shape the application of the formal rules in different contexts (North 1990).

At times of reform, the difference between formal and informal constraints becomes particularly important. As has been said, institutional rules are not completely external entities which work to constrain actors' behaviour, the rules themselves are altered or adjusted by those working within them. The formal rules can be changed, but resultant institutional change is dependent on the available knowledge and skills. The acquisition of this knowledge and these skills is shaped by the existing institutional framework (North 1990). As such the framework shapes the rules that shape the framework and a kind of balance, or stability, is achieved. However, as the above quote from March and Olsen suggests, formal rules and informal rules do not always appear in harmony. The formal rules of the institution can be changed relatively easily. Informal constraints, based on shared mental models often built up over long periods of time are, however, much more durable and resistant to change (Hall 1993; Sabatier and Jenkins-Smith 1993). As a result, change in the formal rules does not guarantee a change in the way things are done.

3.2 Change as a means of achieving compliance

Change is not a necessary part of achieving compliance (see section 3.4), but where there are differences between pre-Bologna and post-Bologna structures or approaches compliance depends on the balance between the forces for change and the amount of resistance to change. As institutions take a long time to build, and involve *shared* beliefs and ideas, they are difficult to change and therefore operate as forces of resistance. This resistance is part of the strength and durability of

institutions (March and Olsen 1989). In this section I explore why, drawing largely on Mahoney's (2000) examination of institutional stability and theories of path dependency. I will then move on to examine the possibilities for change within this context.

3.2.1 Sources of stability

Institutional continuity

Mahoney (2000) outlines four different mechanisms of institutional reproduction: functional, power, utilitarian and legitimation. The functional mechanism is based around the idea that the institution is reinforced (but in Mahoney's view not established) as it performs a particular function in a wider system. Although what the function of the university is may differ between societies, and indeed types of university, the strength of the university as a historic institution is generally seen in its distance from societal changes – the ability of the university to question and challenge society is dependent on its being one step removed from the trends, pressures and values entrenched in other state institutions. This is a source of stability for the university.

The power mechanism of institutional reproduction is a result of the unequal distribution of costs and benefits of the institution. An institution will be reinforced if the elites who benefit from its persistence have sufficient power to reproduce it, even when the majority calls for change (Mahoney 2000). As has been shown, the power distribution within the university is complex. Power is to a large extent devolved in the name of academic autonomy at faculty, departmental and individual level. At least within the academic oligarchy, where knowledge is power, it could be argued that power is often in the hands of the longer serving academics, not the new innovative blood, but those who have had long careers in organisations shaped by accepted shared rules and ideologies concerning how things should be done and what is appropriate. Consequently in the case of the political organisation of the university, it is those who are likely to be most resistant to change who hold the power, and thus stability is maintained.

A utilitarian mechanism for reproduction focuses on choices made according to rational resource maximising behaviour. An institution is maintained if the benefits outweigh the costs, even where the institution is suboptimal. The maintenance of a

nationally recognised degree, course, and assessment structure known by staff, students and accepted by employers could certainly be considered beneficial.

Finally, a legitimation explanation sees the reproduction of an institution based on the beliefs held by actors concerning what is 'appropriate or morally correct' (Mahoney 2000: 523). In this case the reproduction of the institution is based on the individual belief that this is the right thing to do, rather than the feeling that this is the best way to serve a particular function, to maximise gain, or as a result of elite power. Many academics have strong feelings concerning the way in which education should be carried out, the importance of freedom in research, the high importance of the individual academic's autonomy within universities.

Path dependency

Although institutional stability is important, the institution is more than a background against which change occurs, or even a barrier to change; it shapes the change which can occur through limiting the available options. One popular approach to looking empirically at the importance of the past in shaping present choices and actions is path dependency. Path dependent sequences occur where an initial move in a particular direction leads to further changes in the same direction. It is based on three main assumptions: events that take place early in the sequence are more important; early events in the sequence cannot be explained on the basis of prior events or "initial conditions"; and once a contingent event takes place it limits the choices that can follow (North 1990; Mahoney 2000; Pierson 2004). In the case of the Bologna Process, the contingent events include the choice of degree structure (length of degrees, mix of subjects, admissions), the method of assessment and assigning value (timing of major exams, use of credit points), and the relationship of the university to the state (the role of the state in relation to the university, and the ability of the state to implement reform). The former two points are, of course, strongly related to beliefs concerning the purpose of university education, and how it can be achieved.

Path dependence has its origins in studies of technical changes where certain technologies becoming locked in to a particular system, even when they may not be the most efficient choice (Arthur 1988). The process of lock-in relies on decreased returns, and high costs of changing from the standard way of doing things. Douglas

North builds on the work of Arthur, to show that the process of lock-in, or positive feedback, can be applied to institutions. Crucially it is not just that change is *difficult* once a particular path has been chosen, but it is also *unattractive* (Pierson 2000a, emphasis in the original). Despite the positive feedback which favours stability in the system, change can occur but it is shaped by the current way of doing things: as Pierson puts it, the situation is one of bounded change (Pierson 2000b: 76). The usefulness of path dependency does not lie in its power to neatly predict exactly how things will be, but in that particular political options are removed (Pierson 2004). From a theoretical point of view, "Path dependency is a way to narrow conceptually the choice set and link decision making through time" (North 1991: 98). It alerts us to the limits that are placed on change, which is particularly useful in the case of an external, international, change such as the Bologna Process. The importance of path dependency in higher education policy has been shown empirically (Krücken 2003; Capano 1999; Parsons and Fidler 2005). Krücken (2003: 334-335) suggests that given the nature of path dependency in universities, "one has to assume that the organisational and national contextualisation of globally diffusing expectations, values and structures will lead to very heterogeneous outcomes". This clearly has major implications for the Bologna Process.

3.2.2 Opportunities for change

How the reform which is necessary to achieve Bologna compliance might be achieved is a complex question to which many answers could be possible. Building on the previous section, two scenarios are probable. Firstly, policies requiring alterations to the policy instruments used, or to the formal rules, can be relatively unproblematic. In the case of the Bologna Process these might include the changes explicitly outlined in the Bologna Declaration and subsequent communiqués, such as changes in degree structure, increased mobility, and the use of credit points and the diploma supplement. It is likely these changes can be straightforward, unless even they may begin to challenge deeper beliefs.

Other changes might be more far reaching, requiring changes to key understandings. Where this is the case a review of the literature points to six main drivers of, or opportunities for, institutional change: 1. external political pressure; 2. an external shock leading new functional roles being created which require change; 3. increased competitive pressure; 4. alterations in power structures; 5. a change in perceptions of

what is viable or desirable; 6. the adoption of new policies to legitimise desired changes.

External political pressure

In the case of the Bologna reform a certain amount of pressure comes from external political institutions and wider expectations of international organisations, students and international employers. As the increasing similarity between universities resulting from the Bologna reform is potentially a process of institutional isomorphism, we can draw on Powell and DiMaggio (1983: 149) to examine how this may work. Institutional isomorphism is defined as a "constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions". In Powell and DiMaggio's framework, while actors still have a certain level of agency, organisations are bound together not only in the competition for resources and customers, but also for political power and institutional legitimacy. Institutional isomorphism is increased by three mechanisms: Coercive isomorphism, mimetic pressures resulting from uncertainty, and normative pressures, arising from high levels of professionalisation. Of particular interest here is coercive isomorphism.

Coercive pressure results from 'the formal and informal pressures exerted on organisations by other organisations upon which they are dependent and by cultural expectations in the society within which the organisations function', and is particularly prevalent in universities which are subject to formal national standards (Powell and DiMaggio 1983: 150). In the case of the Bologna Process, coercive isomorphism can certainly be expected from state level in signatory countries, especially in the light of the Bologna follow-up mechanism (Ravinet 2005). In Börzel and Risse's terms the state acts as a "change agent", facilitating changes resulting from misfit (Börzel and Risse 2000).

External shock

Mahoney's discussion of institutional reproduction, is also extended to consider change. Functional explanations of change are based on the idea that, as institutions are self-regulating and once started are maintained due to their overall consequences for society, change results from an exogenous shock. The shock should be sufficient to '[put] pressure on the overall system, making a given

institution's function obsolete and demanding its transformation to preserve the system in the new environmental setting.' (Mahoney 2000: 521). The Bologna Process may have rendered certain elements of the institution obsolete – in the development of a European Area of Higher Education degrees which cannot be understood by international universities and employers lose value. Credit point systems which are not in line with those used by international partners no longer usefully reflect the time put into a student's education. Many of the technical changes associated with the Bologna Process could therefore be considered a result of purely functional change, necessitated by the changing international context.

Competitive pressure

The utilitarian explanation of change suggests that change results from increased competitive pressures, or learning processes (Mahoney 2000). At the field level, the need for European higher education institutions to compete with each other, and with American Universities, for international students and recognition is one of the drivers of the Bologna Process, and is an additional source of pressure to comply. At the organisational level one could imagine that universities that are more susceptible to competitive pressures have more reason to implement the changes associated with the Bologna Process. Easily readable degrees, credit points, and increased student mobility might mean an increase in the attractiveness of courses to the brightest students or in valuable international fees.

Alterations in power structures

Mahoney also suggests change may result from a change in the distribution of power. The power structures in the university are complex. This makes the consideration of change due to a change in power – that is the weakening of elites associated with the old institutional arrangements, and the strengthening of subordinate groups associated with the new institutional arrangements – particularly interesting. Once the ministers of education had signed the Bologna Process, for many universities it was on the agenda. Change was not a matter of choice, but rather of policy. However the amount of change and type of change is expected to vary from university to university. North (1990) suggests that change is driven by organisations, or by entrepreneurs. To consider where these two processes might be most likely it is useful to separate out the two elements of power in the university: administrative power and academic power.

The job of the university administration is to implement the reform that has been committed to at national or at university level. A change of the balance of power in the administrative section of the university is therefore less interesting as a *source* of change; it is more an *instrument* of change. Change in this case is organisational change, as it is likely that new positions are created for administrators to carry out the reform. This strengthens the administrative power at the university level, as well as within the faculties, which in turn may weaken the stability, or power of resistance, of the old academic elite.

In addition, the Bologna reform could give actors with specific related interests, such as promoting mobility, or enhancing compatibility, a platform. In some cases this may open an opportunity for a policy entrepreneur, who can not only place issues on the agenda, but also couple solutions to problems, a point which I will return to below (Kingdon 1984: 21). Entrepreneurs are important in that they also bear the risk of choosing uncertain solutions, and can have a coordinating function, building networks of individuals and organisations that have the abilities and resources to make change work (Mintrom and Vergari 1996).

Change in perception of what is desirable

Hay and Wincott, suggest that a change in actors' perceptions "of what is feasible, possible and indeed desirable in the light of their assessments of their own ability to realise prior goals as they assimilate new 'information' and as they reorient future strategies" in the light of new knowledge occurs through *strategic learning* (Hay and Wincott 1998: 965). This implies a deeper change in the values and beliefs of actors, and may impact on the fundamental assumptions of an organisation, and is one which results from the accretion of new information and knowledge.

Legitimising desired changes

The Bologna Process may lend legitimacy to changes which would otherwise not be accepted, from improving the international competitiveness of the national economy, to increasing cooperation or competition between universities to fill research positions, or to top up university funds (Huisman and van der Wende 2004a; van der Wende 2001). As can be seen in the case of the German and Italian national responses to the Sorbonne declaration, the policies resulting from the Bologna Declaration might also provide a possible solution to national, institutional or

organisational problems, such as the length of time taken to complete a university degree. Here we can refer to Kingdon's (1984) work on policy streams as actors take up opportunities to unite particular problems with available policy solutions, or even Cohen et al.'s (1972) Garbage can model in which problems and solutions are attached as best they can be. In this case the Bologna Process, rather than forcing change, offers an opportunity for change.

3.3 Reconciling stories of change: The punctuated equilibrium model

Based on what has been written so far, four general claims can be made concerning the potential changes required to meet the aims of the Bologna Process. 1) Changes can be minor in that they don't affect the core elements of the system. 2) Changes can be major, in that they challenge the whole system. 3) The history of an institution limits major changes, and change is absorbed into the normal way of doing things. 4) The normal way of doing things can change, resulting in a new paradigm or path.

Looking at these four points, we see immediately that there are two main stories of change: One of bounded change characterised by negative feedback, and one of more dramatic shifts followed by positive feedback. In this section we build on this general outline, and fix more concretely how these four elements can be combined.

To start with minor and major changes, it has been suggested that the Bologna Process requires either minor changes or more major changes in Europe's Universities. The importance of considering the institutional context is that where major changes are required, they are likely to be resisted (Risse et al. 2001). As far as possible actors will defend the existing paradigm and incorporate changes into that paradigm.

However, despite this tendency towards stability, large scale and fundamental changes to the institution can and do happen. The two are reconciled in the punctuated equilibrium model. First applied by Eldredge and Gould (1972) in paleobiology, this model can be applied to political and organisational change (Baumgartner and Jones 1993; Romanelli and Tushman 1994). Punctuated equilibrium refers to the interruption of periods of relative stability (equilibrium) by major transformations (punctuations). This theory has two elements which distinguish it from other descriptions of institutional change. The first is in the focus on equilibrium. It has been shown that the nature of institutions is to maintain stability. In

a stable system it is conceivable that small changes could have large effects. Baumgartner and Jones in their discussion of agendas in American Politics, however, suggest that looking at institutions can provide evidence not only of stability, but of equilibrium, in which change reverts back to the norm over time (Baumgartner and Jones 1993, see also Risse et al. 2001 and Krücken 2003). The alternative view would be that major change is achieved by an accumulation of minor changes, as in Darwin's model of evolution (Gould and Eldredge 1977). The second key difference in the punctuated equilibrium model laid out here is one of acceptance (Gersick 1991). Cumulative gradual change suggests that any change will be accepted in a system, as long as it is small enough. Theorists of punctuated equilibrium however argue that this is not the case: changes which are not acceptable will lead to a return to the equilibrium. The use of the term here does not imply that the equilibrium is optimal (March and Olsen 1989), but rather a state of normalcy, or balance, which is distanced from constant changes in the environment or in personal preferences. Dramatic change is the only possible way of breaking this cycle. Romanelli and Tushman (1994: 1144) in their study of organisational change argue that the importance and durability of ideas within an institution support revolutionary transformation "as the principle means by which organisations can accomplish transformation".

The punctuated equilibrium model has implications for path dependency in the university. An example can be given taking the Bologna Process as a form of internationalisation, which can be seen as a sequence in itself (Parsons and Fidler 2005). The outline of path dependency above has already suggested the importance of when things happen, in that events occurring earlier in a sequence have more impact than if they were to come later. The Bologna Process was signed at the same time in each country, although the real timing of adoption differed. More important however is the 'relative timing' – where it fits in with the wider context (Pierson 2000b: 84). And this also varies. Timing can be important in a number of ways. Where the Bologna Process hits early in a sequence/in the middle of a sequence of internationalisation it will have a greater impact due to the "relative openness or permissiveness of early stages" (Pierson 2000b: 75). The impact of the Bologna Process happening late in a sequence of internationalisation could therefore be expected to be less, and although changes will be made, they will be limited and result in a move back towards the equilibrium. In addition, the longer pre-Bologna

structures have been in place, the more they will be entrenched in the unwritten understandings of how things should be done, and the harder they may be to change. The inclusion of the historical context allows consideration of where changes will revert to the norm, or where breaks will be made, and where adjustments will take place slower or faster than is appropriate (March and Olsen 1989), or will be misguided.

Where the process has more impact, the framework outlined so far suggests one of two things will happen: either change will be resisted and the aims of the Bologna Process will be modified to fit with the existing system, or the change will present a challenge to the existing system and may change the path more dramatically. To classify types of change more concretely I will use Börzel and Risse's (2000) work on domestic change resulting from European policy. Firstly universities/university departments can incorporate the changes proposed into their current structures without great modification to existing ways of doing things. This may be kept to a minimum, leading to low levels of change: a process of absorption, or involve modest levels of change through the adaptation of existing processes without changes to core understandings: a process of accommodation (Börzel and Risse 2000). Where change is minor or nominal changes have occurred so that the boxes can be ticked and the old way of doing things is brought in line with the new with minimal disruption, compliance can be expected, but with some omissions.

It is also possible that the structures and understandings proposed by the Bologna declaration have replaced existing policies and processes. Börzel and Risse label such changes transformation. Transformation implies absolute compliance. Predicting where transformation will take place is dependent upon how change is seen. From a sociological institutionalist perspective, medium levels of adaptational pressure are most likely to result in transformation, as changes are more compatible with shared understandings than where a high level adaptational pressure is felt (Börzel and Risse 2000).

In addition to these three responses, two other outcomes are possible. Firstly, that the Bologna Process has provided opportunity for reforms that were planned anyway, or that the whole process has led to something new and exciting which was not mentioned in the official goals. Here compliance would be high, and wider changes

should be observable. Finally, it could of course be the case that no changes have been made and the Bologna Process has, as yet, had no impact, either as a result of actors not wanting to, not needing to, or not being able to reform. Compliance in this case depends on the level of misfit between the original system and the Bologna structures and values. Where misfit is low compliance will be high, where misfit is greater, compliance will be less.

In terms of the two other aspects of response to be addressed, it seems probable that

- the Bologna reform will lead to wider changes where it provides the opportunity to make additional changes that were already desired and where it is in line with key values (is less challenging)
- actors will report a negative effect on the standard of education where the Bologna reform has forced large changes to be made to key areas, and a more positive effect on the standard of education where the Bologna reform has allowed desired changes to be made.

3.4 Formulation of hypotheses

In line with theories of path dependency, change resulting from the Bologna Process can be expected to be limited to the margins of the institution; that is it will involve only changes in the settings of instruments, or the instruments used. Greater changes which impinge on the deeper core aspects of the institution can be expected to be resisted or modified to fit.

The theoretical framework is summarised in figure 3.1. The development of universities has so far followed a particular path which is determined by and determines the structural forms and the institutional rules. The aims of the Bologna Declaration may in some cases be in line with the original path, structurally or in terms of the aims of the university (outcomes A or B on figure 3.1). In these cases compliance will be achieved. On the other hand, the aims of the Bologna reform may not be in line with this path. In these cases we should expect low compliance, unless there is some internal or external driver for change (outcomes C,D or E on figure 3.1).

<Figure 3.1>

The purpose of the hypotheses is to formulate some of the key conditions of change arising from the theoretical discussion which can be tested quantitatively, namely the conditions under which we could expect high levels of compliance with the Bologna reform.

Although some systems are closer to the Bologna model than others, there is no system in which full compliance was achieved before 1999. It has been shown in this chapter that the standard thesis when looking at examples of reform within the university is that change will be limited to the lowest level possible to achieve compliance: absorption or accommodation will be favoured over transformation. In rare situations there could be a punctuation in the path which permits larger changes. There are three basic situations in which compliance could be expected to be high. The first is where there is very little change needed, the second where the required changes fit into the current ways of doing things, and the third where there is a strong driver for change.

The theories of change reviewed suggest that a policy is more likely to be successful where little change is needed and the proposed form fits with the current path of development. Compliance is therefore more likely where there is a good fit between the aims laid out in the declarations of the Bologna Process and the structures and instruments used.

> *H1: the closer the 'fit' between the recommendations laid out in the Bologna Declaration and the current structures and instruments used within universities, the greater the level of compliance*

The path is not only structural, but also based on shared values.

> *H2: where the aims of the Bologna Process are perceived as being in line with the key values held in the university, compliance will be greater*

As has been mentioned above, much work on the Bologna Process assumes that there is a national response to the process which can be seen as a whole. This relies on two assumptions: firstly that there is a national policy which applies to all universities, and secondly that, if there is one, that universities will respond in the same way to it.

These assumptions can be addressed in two ways. Firstly, the importance of state power to push through change. Powell and DiMaggio (1983) in their discussion of isomorphism suggest that isomorphic change is more likely where an organisational field, such as the national university system, is dependent on a single source of support for vital resources, and where there is transaction with the agencies of the state. Greater isomorphism in structures, and therefore in response to the Bologna Process, can be expected in university systems which are dependent on centralised resource distribution. In addition, greater isomorphic change should be observed in systems with stronger state control. As the Bologna Declaration was signed by ministers at national level, it is assumed that the national response will therefore be more compliant with the Bologna Process.

H3: Greater compliance can be expected in more centralised systems

A key aim of this thesis is to investigate whether there are differences within national responses, and, if so, whether there is a pattern to these differences. A review of power structures within the university has shown that a certain amount of power is located at the faculty/departmental levels. For the final two hypotheses I therefore focus on elements that are likely to differ between departments within national systems.

One driver for change appears in Mahoney's review that is likely to vary between universities: The pressure to be ahead of, or to keep up with, changes happening elsewhere. This is likely to increase the coercive and mimetic pressure to be similar to other universities. Competitive pressure can lead to divergence of universities and departments as competition drives specialisation. Increasing differentiation between units, is the natural and normal trend at least within universities (Clark 1996). However the Bologna reform is an exceptional policy in that it *enforces* a convergence of units in the region, and makes similar comparative structures desirable. This is especially important where universities or university departments are competing for students internationally.

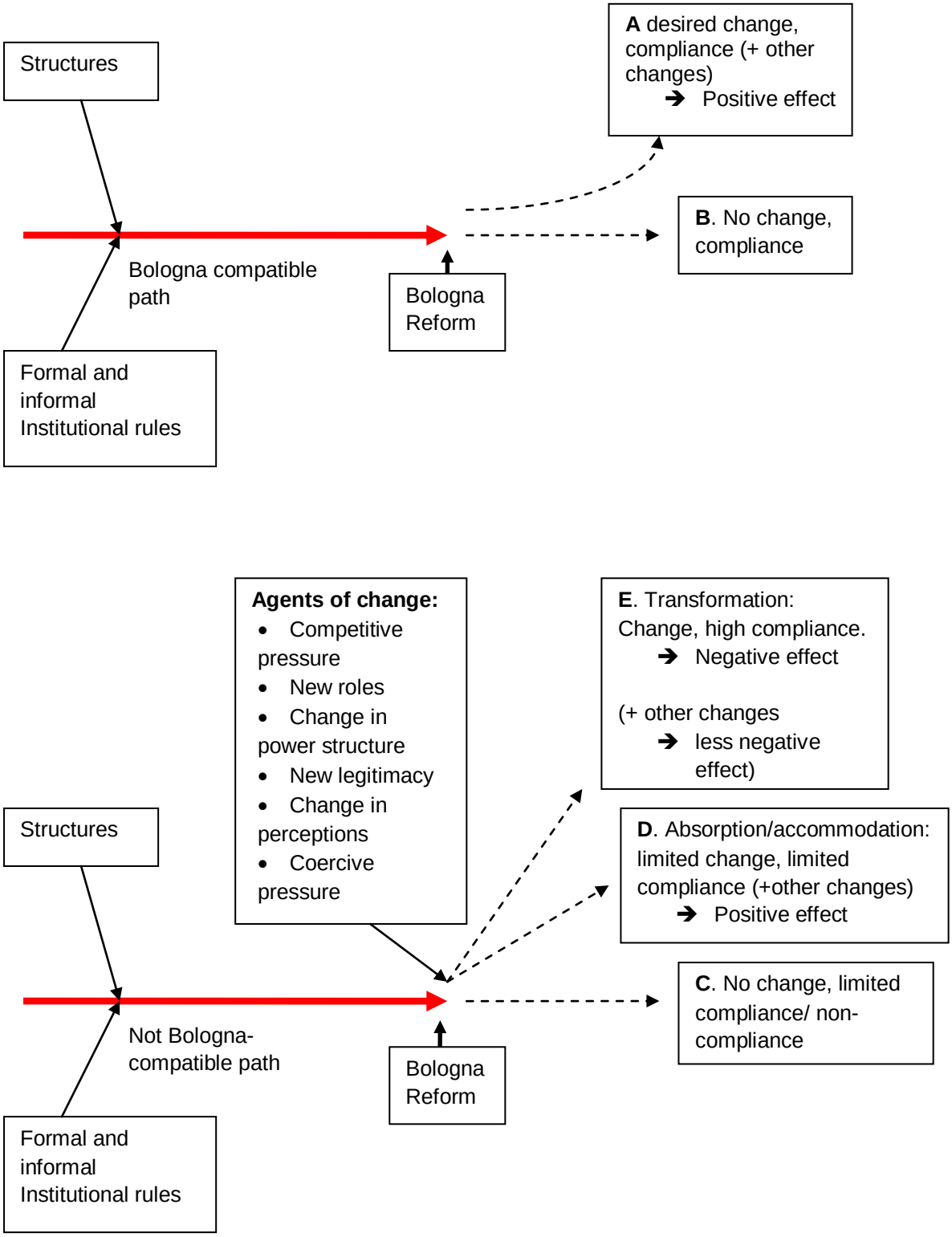
H4: Compliance will be greater where there is strong competitive pressure

Finally, following North (1990) and Börzel and Risse (2000), where organisationally driven change is lacking, change may be driven by a policy entrepreneur: someone willing to invest their time “in pushing through pet projects” (Kingdon 1984: 21). Compliance with the Bologna Process is therefore more likely where there is someone championing the process, raising awareness and support for change. This could be at a number of levels, department, faculty, university, or nationally.

> *H5: Where strong guidance is lacking, or unclear, compliance will be greater where an entrepreneur pushes through change.*

Based on the arguments presented here and in chapter 2, there is good reason to assume that these variables will differ in some way not only across national systems, but also across universities, and departments, as is presented in figure 2.4. Analysis based on these will allow the initial assumptions outlined in section 2.4 to be tested. There is no indication of exactly how these elements will vary across the departments however: the intention is to first explore whether there are differences, and whether this approach is useful, rather than what the differences will be.

Figure 3.1 Possible outcomes of the proposed reform



Chapter 4 Design of the Study

In this chapter I outline the approach which was taken to applying and testing the theories outlined in chapter 3. First the research design is presented. This is followed by a discussion of the methodological considerations shaping the choice of units, the methods of data collection, and operationalisation of key variables.

4.1 Research design

This study aims to answer the following research questions:

- How are universities responding to the Bologna Declaration?
- Do responses differ along national lines?
- Are there any other patterns to the response?

It is proposed that differences between universities may exist along lines of discipline, rather than only national systems. The questions were addressed through a comparative case-study approach, using an embedded design (Yin 2003): the main unit of study was the universities, but data was collected above and below this level to allow differences at these levels to be analysed. The inherent problems in comparative studies – difference in meanings and understandings, lack of rigour, lack of theoretical base – are equally applicable to the field of higher education (Perellon 2000; Mayer 1989; Roberts 1973). With these issues in mind, data was collected through face-to-face interviews, a review of documents necessary for understanding the how and why of change or lack of change, and a wider survey carried out in the university departments. To further improve triangulation, the research design consists of both qualitative and a quantitative analysis.

Qualitative analysis

The qualitative part of the thesis has three main aims. Using the theoretical framework, I aim: To gain an understanding of the processes leading to compliance (as a result of change, or not; as a form of transformation, absorption or adaptation; at which levels of decision making); to appreciate the context of compliance and the reasons for differing levels of compliance ; and finally to gain an understanding of where the reform was seen and taken as an opportunity for wider changes, and what the impact on education was perceived to be. Eight universities are studied, as is outlined in more detail below, with observations also being made from a selection of faculties and departments within the universities. In addition secondary data is used to understand the national context in which implementation is taking place.

According to Eckstein's classification the case studies are disciplined-configurative (Eckstein 1975): configurative in that they consist of patterns of elements, and disciplined in that deductions will be made based on the theory presented in chapters 3.

The first step is to present a description of the levels at which decisions concerning the Bologna reform were made to allow an understanding of the role of the state in the chosen cases and the amount of room for manoeuvre within the universities, and to establish the context of change (chapter 5). The next step is to present the levels of compliance in the individual university departments. These are analysed comparatively to present and interpret the cases, with reference to the circumstances surrounding the university level response (Ragin 1987). In chapter 6 I adopt firstly a cross-case study design, comparing national experiences, and then focus on within-case departmental variation (Gerring 2007). As the aim in this part of the thesis is to deepen the understanding of the context of change, the analysis is organised around the main areas of change in which differences are observed, for example the use of credits, or the existence of joint degree programmes.

Quantitative analysis

The quantitative analysis has two aims: First to test the importance of the different institutional levels – national system, university type and, particularly, discipline – in explaining compliance, and second to test the theory-based hypotheses outlined in chapter 3. The first aim is achieved by examining both compliance, and each of the explanatory variables, using dummy variables for each level of analysis. The second aim is achieved by creating variables and running regression models for the first four hypotheses, and finally a dummy variable for the presence of an entrepreneur. This is done with an awareness of the problems associated with testing hypotheses based on a small number of cases, in particular the problem of establishing causal inference, and the small "n" problem.

The fundamental problem of establishing causal inference is common to any research design (King, Keohane and Verba 1994). Ragin outlines four potential problems: there may be no single cause, causes don't operate in isolation, a particular cause may have very different effects in different contexts and some

causes are only effective in the presence of others (multiple conjunctural causation) (Ragin 1987). While these problems can not be definitively overcome, the use of a case study approach together with the more focused hypothesis testing allows a better understanding of how different variables interact (Ragin 1987; Gerring 2007).

The small number of cases in this study, or small “n “ problem, is compounded by the multi-level analysis, the number of observations decreasing at higher levels. Considering the large number of potential explanatory variables in the universities this presents a clear degrees-of-freedom problem. One way around this problem would of course have been to increase the number of cases, or the number of observations in each case. The main limitation on this was practical: face-to-face interviews were integral to the research design, but given the resource constraints, an increased number of cases was not feasible. A step towards limiting this was the choice of a Most Similar Systems Design (MSSD) in the choice of countries, as is outlined in section 4.2.1 below, although indentifying countries that are similar in all respects but those under investigation was, of course, an impossible task (Przeworski and Teune 1970). With acceptance of these methodological limitations, it is expected that the quantitative analysis, placed in context, can provide an indication of whether the five factors identified had an effect on the level of compliance.

The choice of a small “n” approach doesn’t only have implications for theory testing, but also the generalisability of the results. However, the emphasis here is on internal validity rather than external – the results can give an indication of what has happened in a select number of universities, and the factors that were most important in shaping reforms in these areas. They cannot be extrapolated to fit any reform in any university, but can give an indication of the effects of cross-national state-driven reform of higher education in Western European countries.

4.2 Choice of units

Using a most similar case design aims to control for as many complicating variables as possible. The aim was to choose the universities and departments to bring out differences in the independent variables, as shown in figure 4.1. The choice of units followed the pattern outlined in figure 4.2 below.

<Figure 4.1>

4.2.1 Choosing the countries

In accordance with a Most Similar Systems Design, four regions were chosen, all located in the north west of Western Europe. The selection was made based on the education system – Napoleonic, Humboldtian, Anglo-Saxon – and the key independent variables, centralisation and fit, to maximise variation within the set (summarised in table 4.1). Switzerland provides a particularly lucrative country with two university systems within the same political system – the Humboldtian system in the German language region and Napoleonic system in the French-speaking region. Here we also find two levels of centralisation within the same national structure in the Federal Universities of Technology and the Cantonal-based Universities. The Netherlands provides an example of a highly centralised system with a Humboldtian history leaning towards the American Anglo-Saxon model. The UK - correctly English, Welsh and Northern Irish - system is Anglo-Saxon with a strong tradition of university autonomy. The Scottish system is distinct from this. Where the terms UK or British are used in this thesis to refer to the university system, Scotland is not included.

<Table 4.1>

4.2.2 Choosing the universities

In each country/region two universities were chosen: One specialised and one general. This enabled a comparison of the federally controlled universities to Cantonal universities in Switzerland, and should also maximise differences in culture of universities found in close geographical proximity. The universities chosen were state-funded public universities or university level institutions comparable in size and age. The general universities chosen had between 20 000 and 25 000 students in 2005, and were established before 1900. In French speaking Switzerland, no universities of over 20 000 students existed. In this case the largest university in the area was chosen. More modern universities that began life as institutions founded with an ability to adapt and innovate were not included as these had a different institutional identity to older universities. The universities chosen were also all high status. Henkel and Kogan (1999) suggest that the way in which an institution responds to external pressures is based on their status and history; higher status universities being more concerned with maintaining their academic positions. While holding these factors (as far as possible) constant, the choice of universities aimed to

maximise variation in structures, values, level of centralisation and competitive pressure.

The specialised universities were technical universities or university level institutes, as these are geared towards excellence in both pure and applied learning, and are potentially more market driven. Due to their specialisation these universities were smaller (between 10 000 and 13 000 students at the time of selection), but were of a similar age to the general universities. From those universities fitting the criteria, the final choice was based on the ease of access to the university. The choice of university is summarised in table 4.2. It should also be noted that in the case of Swiss universities the two general universities are Cantonal universities funded at the regional level, whereas the specialised universities are run at the federal level. This permitted an analysis of the importance of state control within the country.

<table 4.2>

4.2.3 Choosing the departments

The departments were chosen to highlight the potential differences between university subjects, with particular focus on differences in values, degree structures and competitive pressure. The level of centralisation was considered only down to the university level, and entrepreneurs could not be selected for. The differences in values, structures and competitive pressures were considered in terms of the major dichotomies outlined in chapters 2 and 3: National / international, knowledge as outcome / knowledge as procedure. In addition the tendency towards convergence or divergence between departments in different universities was taken into account. According to Becher's (1989) taxonomy, some departments are more likely to be convergent with a strong sense of commonality in core theory, for example Physics or Economics. However, here the focus was on undergraduate training rather than the discipline as a whole, convergence was therefore taken to consider whether education at this level is likely to be similar across departments of the same type. For example although Becher identifies Mechanical Engineering as a divergent field with a broad area of interests, an engineer is likely to require a roughly similar knowledge base and skill set regardless of where s/he trained, whereas in other disciplines there will be greater divergence in basic education: a geographer or linguist can have very different fields of speciality at university level, as long as the basics are covered.

These dichotomies were considered to be continuums – of course, no university course is completely national in its outlook, or completely vocational.

In each non-specialised university three subjects were studied, in each specialised university two. To maximise the possibility of variation in compliance, the subjects in the non-specialised universities included at least one with a more national focus, and one with a more international focus, at least one which was more market oriented and one which was less market oriented, and at least one which was focussed on divergence and one on convergence. In addition, to allow for comparison of the effect of being in a specialised or generalised university, one of the subjects overlapped the two university types.

The choice of subjects from the vast number offered was initially based on general knowledge of the subject areas and initial research in the Encyclopaedia of Higher Education, edited by Clark and Neave (1992), from which much of the following information is taken. The final decision was to a certain extent arbitrary as in some cases a number of subjects may have fitted the criteria. The subjects chosen were Law, selected as a employment oriented subject based in national systems; History, selected as a non-vocational subject with a high level of divergence; Physics, chosen as a subject taught in both specialised science universities and non-specialised universities, which has a structure which demands convergence in teaching at the introductory levels and which has a strong international focus; and Mechanical Engineering, chosen as a technical subject which is more focussed towards employment. A more detailed analysis of the subjects and their orientation, along with the standards by which they were classified, is outlined below, and a summary is provided in table 4.3.

The international focus of a subject was difficult to assess. Studies of student mobility may say more about the type of student attracted to the subject or the enthusiasm of the staff than about the nature of the subject itself. Considering the number of international links was difficult as many were organised informally by individual professors rather than formally by the department head. However, logically some subjects have a strong inherently national aspect, whereas others do not.

A market leaning was characterised by the orientation of a qualification towards employment (applied education), or the perceived need to fit the needs of a section

of the community (Neave 2005). This makes the discipline more amenable to external influence (Becher 1989). Towards the cultural, or pure, end of the spectrum, the degree has a wider purpose.

The issue of convergence and divergence was reflected in whether individual degree courses in different universities were more or less alike, or were in the process of becoming more alike. This is not to imply that the courses were standardised, but rather that they were, or were required to be, similar. To judge this I looked at the curriculum of the subjects in the Bachelor phase (prior to specialisation at the Master's' level) to see to what extent it was similar between the chosen universities.

<table 4.3>

History

National / International

History has long been part of university education, and, for the beginning part of its existence at least, was deeply rooted in the study of national political history, its heroes, villains and important structures. Over the 20th century, as European hegemony came to an end, excluded groups found a voice, and through the increasing influence of the social sciences, the focus of the subject widened to develop the widely international studies that are common today. However, the subject remains largely nation-state oriented, in that it tends to focus on the state as a unit for research, and on the state of origin of the researcher, the latter in part due to the many linguistic barriers which arise in researching the past (van Dijk 1992).

International links between departments clearly exist, particularly in the larger sub-disciplines, through many specialist organisations, conferences and international journals but in comparison to the other subjects listed, history falls towards the national end of the national – international spectrum.

Knowledge as outcome/knowledge as procedure

The study of history is academic. The strength of the humanities lies in their “extra academic prestige” (Bourdieu in Weiland 1992), which even in a changing subject, with an increasingly structured approach, can be seen as a counterbalance to the forces of marketisation: “it is not bold to assert that the more modern the world becomes, the more the necessity for the humanities will be felt” (Weiland 1992).

Convergence / Divergence

It is however a subject that is greatly specialised – and there is limited linkage between these specialisations. The history curriculum from university to university can differ greatly based on the lecturer's field of expertise. While the general themes of the courses are similar – as may be expected they are organised around specific time periods with some regional specialisation and focus on historical methods – the courses differ in terms of the selected areas for focus, and the amount of time given to individual and group research and the development of skills. It is fair to say that there is less similarity in the modules offered, although the core skills acquired may be more universal.

Physics

National / International

Physics is inherently an international subject. Progress in the field is reliant on international communications and the sharing of discoveries, and sometimes resources, with universities regionally and worldwide.

Knowledge as outcome/knowledge as procedure

The link between physics in higher education and the market is an interesting one. More than the other natural sciences perhaps, a large proportion of fundamental research is carried out in universities (Rothman 1992). Physics also clearly has practical applications which are highly relevant to wider society. Developments in physics underpinned the industrial revolution, and developments in wider society drive research in physics. The wider movement towards short-term profit has of course also been reflected in the development of physics as a university subject (Rothman 1992). Although most physics graduates find themselves in jobs that don't require specialist knowledge (Rothman 1992), some sub-divisions clearly have a greater practical application and are more closely linked to industry than other more theoretical areas. In this sense physics as a university subject, while committed to the pursuit of pure knowledge, is, to a greater extent than history, market oriented, but procedural knowledge is as important as the practical knowledge gained.

Convergence / Divergence

The basics for the training of a physicist is by necessity relatively standardised – it is a subject which demands a structured progressive curriculum, moving from the basics to greater specialisation around a core theoretical base (Becher 1989;

Rothman 1992). A brief review of the physics courses in the chosen universities shows this to be the case. A marked difference is the teaching of basic sciences in the first year due to the differing specialisation of school leavers. Those in England for example having specialised in sciences from age 16 compared to the Swiss system where school leavers with any subject profile can choose to study physics and therefore require a foundation in chemistry. In the Netherlands students also follow a general science curriculum in the first semester with a choice of Bachelor degrees open to them at the end of the first year. However, while the timing of subjects varies slightly, and the specialised modules towards the end of the course may differ, the similarities in the subjects studied and the progression in physics education are clear.

Law

National / International

Law courses have to be specific to the national system, and are shaped by the requirements of the national system. However, each law degree has an international element: As would be expected the departments in the EU countries place greater importance on EU law than their Swiss counterparts.

Knowledge as outcome/knowledge as procedure

Legal education has a strong market leaning – a degree in law is seen as a necessary qualification for a professional status, be it in private law or public institutions, which means the provision of education is to a certain extent consumer driven, whether the consumer be the student, or the eventual employer. While the academic study of law is not purely vocational, it 'has to be reconciled with the reality that legal teaching is a stage towards careers requiring a full legal training' (Lewis 1992: 1133).

Convergence / Divergence

While law courses are not standard there is a need for them to provide a similar background to the law which forms the basis for entry into the legal profession. For this reason, a certain level of similarity can be seen between the law degrees offered at the chosen universities. Each course offers a foundation in public and private law, and criminal law in the first two years. Where they differ is in the focus given to different aspects of the law – whereas the English university offers a wide selection of

optional courses, the course provided in the German speaking part of Switzerland has a noticeable financial bent.

Mechanical Engineering

National / International

With the advent of mass globalised production the need for development in mechanical engineering to meet only national needs has been opened up to include the rest of the world creating an increasingly international leaning.

Knowledge as outcome/knowledge as procedure

Mechanical engineering as the study of machine building, manufacturing and the operation of engines is, through its very nature, closer to market needs than the other disciplines studied here. Although the linkage of mechanical engineering to the study of physics in the late 1800s gave a decidedly academic edge to the subject, its early association with electrical technology ensured a strong relationship between the market place and the university department (Lundgreen 1989).

Convergence / Divergence

As with the physics courses, mechanical engineering courses tended to offer similar subjects for study in the different universities, from foundation courses such as mechanics, mathematics, through to design and production. As such they have a relatively high level of convergence.

The final selection of twenty cases is as shown in figure 4.2. It should be noted that while the term “department” has been used up to this point, within the universities studied the organisation of the institution and the terminology used varies significantly. While for the general questions the term “departments” will still be used, the levels being referred to in each university are summarised in table 4.4.

<Figure 4.2>

<table 4.4>

4.2.4 Abbreviations for universities and departments

To enable the reporting of results, especially in tables where space is limited, abbreviations will be used for each university and department. The national code UK, NL and CH will be taken, with the Swiss German and French Swiss regions being

represented by CHG, CHF respectively. The type of university will be shown by initial, G for general (non-specialised), S for specialised, as will the subject: H (History),L (Law),P (Physics) or ME (Mechanical Engineering). For example the Mechanical Engineering department in the Dutch specialised university will be represented by NLS ME.

4.3 Data collection

4.3.1 Documents

Much of the base material for this thesis was taken from official documents recording the progression of the Bologna Process. The requirements of the Bologna reform are laid out in the Bologna Declaration and follow up papers. Information about the changes made at the national level was taken largely from the National Reports, produced as part of the feedback process for the bi-annual Bologna stocktaking report. In addition reports from external organisations were used where necessary, including the 2009 European University Association Report on University Autonomy used in the operationalisation of centralisation, outlined in section 4.4.2. At the university level, where possible, information on the changes that had taken place were investigated through university documents, including guidelines, regulations, strategy papers and course outlines. A list of the documents used is given in the bibliography, where appropriate they are referred to in the text by number. Additional information about the universities, including numbers of international students and funding, were taken from the university annual reports and websites. Where an overview could not be found, gaps were filled in interview or through targeted emails.

As the research questions address more than the official response to the Bologna reform, documentary evidence was not sufficient. A key part of the data collection was interview based. This enabled an understanding of the structural and cultural context, and the process, of implementation, as well as the impact of, and responses to, the Bologna reform. A structured interview format was used. In addition to this an online questionnaire was set up and invitations sent out to a random selection of respondents in each university department.

4.3.2 Interviews

The interviews had two aims. The first was to find out specific information related to the implementation of the Bologna Process in universities, their faculties and

departments. The availability of information varied considerably. Whereas for some universities, or departments, regulations and detailed course information were available online, in others a search for 'Bologna Process' provided only a link to say a talk given by a visiting academic, with no internal information whatsoever. As a result, in many cases interviews were necessary to find out exactly which elements of the Bologna Process were in place, and whether there had been a lesser or greater amount of change. Even in cases where information was made public it was very difficult to assess the amount of change that had taken place, whether changes were nominal or more substantial, and whether change was related to the Bologna Process. In addition, interviews were used to provide an overview of the process of implementation and its relationship to other developments.

The second intention was to see the way in which the process was perceived. Face to face contact in this situation had a number of advantages. Firstly it was a step towards addressing the issue of bias – it became clear through the interviews whether actors were generally happy with, or had fundamental problems with the changes that were being enforced in (and in many cases on) departments. Secondly, it allowed a greater appreciation of the processes of change – who made decisions, and the levels at which change was being implemented. Thirdly it permitted greater understanding of the frustrations of actors both where changes were being made to systems that were perceived to work perfectly well already, and secondly where changes were desired but could not be made – veto points (Tsebelis 2000). Both these elements were important in beginning to address the causal chains through which compliance was or was not achieved.

Finally, interviews gave an insight into the way in which changes were being assimilated into the normal way of doing things. After the first round of interviews the importance of asking actors to assess not only whether new systems had been introduced, but to what extent they were a renaming of the old system became clear. These were structured into the interview schedule.

Formulating the questions

The questions were formulated in accordance with Dillman's(1978) total design method. The order of questions was based on a progression from more general to more personal questions. The interview schedule is given in appendix 1.

The questions were mainly pre-coded, closed questions for ease of data management. Where appropriate more open questions were used. In many cases additional notes were made on points of interest to the interviewee or interviewer. This information was used to complement the interview data where appropriate. In some cases respondents declined to answer some or all of the questions outlined on the interview schedule. In these cases where the respondent agreed to a telephone conversation, the appropriate material was gleaned as far as possible from the call. In other cases printed data on course changes (regulations, course guides etc.) was used to fill in any gaps.

Bias in the data

Relying on interview data gives a high risk of bias in the data. There were a number of sources. The first was bias resulting from the question forms chosen. Following Dillman (1978), care was taken when writing the questions not to include value judgements in the question forms. Where a range of options were provided these options were always offered over a large range from the least to the most extreme value possible: major constraint to major opportunity; the same to completely new system etc.

Secondly, much of the information concerning the amount of change that had taken place was necessarily subjective information – experts were asked what they thought about the implementation of the Bologna Process and how it had affected their department. This has particular implications for the reliability of the data – if other people had been asked, would the same information have been received? In addition to the benefits of speaking face-to-face outlined above, information concerning the implementation of the Bologna Process, the amount of change that had occurred, and how it was received was, where appropriate, gathered at the faculty and departmental level; the same questions were asked at each level. Due to the difficulty of locating different experts at each level this was not the case in the Law departments and specialised universities. However in each of these cases interviews took place on at least two levels (see figure 4.3). Using the questionnaire data together with the interview data for questions concerning areas of difficulty, the inclusiveness of decision-making, attitudes towards the reform and the impact of the reform at departmental level also worked to combat this bias.

Finally, data was collected on other variables likely to shape perceptions of the Bologna Process, including age and level of internationalisation of respondent and the amount of time spent on teaching, research and administration. A Pierson correlation was run on each of these variables with the effect of the Bologna reform on education. No significant correlations were seen.

Identifying the interviewees

The aim was to speak to the person responsible for, or most knowledgeable about, the implementation of the Bologna reform at each of the levels shown in figure 4.2. In some of the selected universities the persons responsible for the implementation of the Bologna Process were easy to identify from the university websites, in others following initial contact the chain of contacts between actors made the identification of the 'right' person to speak to fairly straightforward. In a certain number of cases, each contact had to be made individually. In every case, initial contact was made by email, followed up with a phone call. When it was reasonably certain that the right person had been contacted the initial email also included an outline of the research. In the follow-up phone call a date was established for interview. In total 36 people were interviewed over the 20 departments. Of the 36 respondents, 18 (50%) were professors or senior academics, 7 were lecturers or (senior) assistants, and 11 were administrators. The reasons for the varying number of interviewees in each department are outlined below.

Access

The actual interviews carried out are summarised in figure 4.3. Within the Law faculties and the specialised universities the nature of the structure of degree courses within the faculties made it clear that those with the knowledge of particular courses at faculty level were also those with the knowledge at the departmental level. As a result interviews within the specialised universities were carried out with the directors or directors of studies of the courses in question. Within the Law faculties interviews were carried out with an actor at the faculty level who had an overview of changes across the faculty.

<figure 4.3>

Although most respondents were very helpful, there were some departments where gaining access to information was problematic even once a respondent had been identified:

- In three cases the interview was carried out over the phone due to the difficulty of finding an appointment.
- In the Physics department of the French-Swiss specialised university, where the respondent felt he had little to add beyond what had been said at the university level, a compromise was reached in the form of the completion of certain questions from the interview schedule over email.
- In the English History department, the Bologna Process had not reached the level of the department at the time of interview. As a result the head of department declined to be interviewed. The faculty level interviewee could provide no specific information on the History department, but it was clear that no changes had taken place there.
- Specific difficulty was encountered gaining access in the Law department in the French speaking part of Switzerland

Some respondents preferred to be interviewed together. They were asked to complete some questions individually, but others were answered by the two/three together. Where this is the case it is indicated by a number in brackets on figure 4.3, or, in the case of the Humanities faculty and History department in the Dutch general university, by adjacent boxes.

An additional interview was also carried out within the specialised university in England as it was highly recommended to speak to an entrepreneur who was attempting to drive the process forward in England, Wales and Northern Ireland. This interview is illustrated as a +1 on figure 4.3. The respondents were promised a degree of anonymity. Names are therefore not used in the text, but a summary of the roles of the respondents in each university is included in appendix 2.

Some respondents were unhappy answering the more politically sensitive questions – which actors are against the process, what the problems have been with the implementation so far, future plans – and others were unhappy with the formulation of the questions. The use of sometimes generic terminology borrowed from the Bologna documents (European Area of Higher Education, comparability and compatibility) was sometimes criticised. In an international study across different language areas,

educational systems, and subject areas it is also possible that the key terms (comparability, compatibility, Bachelor degree, EHEA) had different meanings, and different connotations, in different contexts.

Timing

The interviews took place over a twenty-two month period between May 2006 and March 2008. The dates of the interviews are shown in appendix 3.

Fortunately, the implications of this longer time frame were limited by the different pace of change in the different regions. In the UK, no change had taken place, indeed discussion really only began in the latter half of the decade, so later interviews were more interesting than earlier. In Switzerland the timing differed greatly across departments. In the Netherlands all the changes were in place before the time of interview. As the *relative timing* (see Pierson 2000a) of the process also differed so greatly, had the interviews been carried out within a shorter time scale of a year, as was originally planned, the process would still not have been at the same point in each country.

4.3.3 Online questionnaire

Compiling the questionnaire

The aim of the questionnaire was two-fold. Firstly, the questionnaire should reduce bias in the interview data and give a wider view of how the Bologna Process had been experienced in the chosen departments. Secondly, the questionnaire was designed to provide more information concerning the university as an institution – providing insight into the rules and ideas within which people were working and their attitudes to the changes taking place and whether there were distinct patterns to the values held. The questionnaire was formulated with each of these aims in mind. The questions posed are outlined in appendix 4.

Format of the survey

The online survey was produced using PhP surveyor, now know as Lime Surveyor, also according to the total design method (Dillman 1978). The order of questions was chosen to follow a logical train. It was decided to start with a question where actors were able to voice personal opinions about the process as a hook in to the survey. Before release the survey was sent to one professor in my home university in Switzerland, a family member working in a British university, and a fellow student for

feedback. Once the changes from this initial round were implemented the survey was opened and respondents were sent an email with a token number through which they could access the survey.

Selection of recipients

The aim was to survey at least five staff from each department. To achieve this, twenty invites were sent out to each department. The participants in the survey were chosen randomly, where numbers permitted, from the professors in the department. The professors' names were found on the department or school homepage and listed alphabetically. The first 20 were sent invitations and tokens to participate in the survey. In cases where there were not twenty professors in a department, the next highest level of staff was listed and the necessary number of participants selected in the same fashion. In some cases the tokens assigned were passed internally to other members of the department. Where I was informed of the change, the appropriate data for the new respondent was entered.

Process

A letter containing an outline of the research was sent to each selected respondent in early May 2007. The surveys went on line in late May for four weeks. A reminder email was sent after two weeks, and a final reminder one day before closing. Following suggestions from some respondents that the deadline be extended due to exam times, the survey was left open until 2nd July 2007. The overall response rate was 33%, with a low of 10% (NL G History) and a high of 60% (CHG G History).

Most responses were received from within Switzerland. This may be because of the current importance of the process at the time. In the Netherlands much of the work had already been done, in the UK the Bologna Process was still not a reality to many.

4.4 Operationalisation

4.4.1 Dependent variable

Many studies of compliance with European policies consider whether transposition has taken place by the required deadline (Mastenbroeck 2003; Giullani 2003). This was clearly not possible here as this thesis provides a snapshot of the process of implementation not a comprehensive analysis of institutional change. It was however possible to consider what has been transposed up to the time of research, and also

the ‘quality’ of this transposition. Gerda Falkner’s (2003) work on the operationalisation of variables for comparing the effects of Europeanisation was taken as a starting point. Falkner emphasises the importance of moving beyond a simple dichotomy of compliance/non-compliance in order not to overlook cases where large changes have been made that still fall short of correct transposition. She focuses on “*essentially correct transposition*” in which a country, or in this case a university or faculty, essentially accomplishes the adaptation of most of the requirements. In addition to this she suggests that consideration should also be given to how many of the requirements have been fulfilled, and how many of those are “crucial” to the overall aim of the Directive (Falkner 2003: 8). As this thesis focuses not only on legislative change, but also actual change that has taken place, rather than transposition at university level, the focus was on essentially correct application at the departmental level.

The Bologna Declaration outlined six main points to be achieved in Universities by 2010. Following the declaration, ministers of the signatory countries have met every two years to discuss progress and re-affirm and extend the aims of the Bologna Process, the last meeting taken into account in this thesis having taken place in London in May 2007. From the communiqués issued as a result of each of these meetings, in addition to the original statements made in the Bologna Declaration, a number of points for compliance were identified. Some of these could only be addressed at the national level and therefore would not have differed between individual universities. Those that apply at the level of the university are summarised in table 4.5. This table excludes repetitions in aims, where this is the case, those that are more descriptive have been included.

<table 4.5>

A number of elements included in this table were excluded from the study. Firstly, improving the European dimension training and research in the Bologna Process was excluded as this was incorporated in the subsequent focus on the doctoral level. Secondly, the aims relating to life-long learning were also excluded from the model as it was only in the 2007 London communiqué that the first concrete steps in this direction were set out. In addition, as this communiqué was produced after some of the interviews were carried out, aims first introduced in London were excluded. An

exception is the statement concerning the awarding of credit points based on student workload, as this was the basis of the European Credit Transfer and Accumulation System (ECTS) so was seen as a useful clarification of whether compatibility has been achieved. Finally, the category 'other' was not included in the valuation of the dependent variable as these elements were rather vague and therefore difficult to define and measure.

The remaining elements used to make up the dependent variable are listed in table 4.6. Assessing which had essentially been applied was in some cases straightforward – a Diploma Supplement was issued, or it was not – and in other cases less so. In the latter cases judgement was a qualitative exercise based on consideration of the changes that had taken place in legislation and how things were being done (Falkner 2003). Once this had been assessed, based on interviews with key actors and objective consideration of the changes that had been made, the number of aims that had been transposed and applied at the level of each department could be counted. These were then weighted in terms of which were crucial to the success of the Bologna Process.

The main elements of the Bologna Process (Diploma supplement, two-cycle degrees in place by 2005, in which the two year second cycle leads to a Master's degree, access to the second cycle based on completion of a three year first cycle, the use of ECTS based on learning outcomes) which were crucial to compliance were given the highest weighting (3 points). Where the courses tended to vary is in the details. Measuring these was difficult, as there was much flexibility within the aims of the Bologna Declaration – the recommendations were often loosely stipulated. However, from the course outlines, lists of membership of the European Association for Quality Assurance in Higher Education (ENQA), and the answers given in interview, each department was given a score based on whether the intended elements were in place. Although the use of the term 'compliance' has connotations of right and wrong, the aim was not to say whether the chosen universities were doing the right thing but rather to highlight the differences. The areas of differentiation were therefore also weighted– each was given a value of 2 points. As Quality Assurance was compliant across the board, this was given 1 point. A summary of the criteria and weightings can be seen in table 4.6.

<table 4.6>

The total number of compliance points were then calculated for each department and converted to a percentage to give an index where 100 was total compliance with all aims of the Bologna Process.

4.4.2 Independent variables

H1: The 'fit' between the recommendations laid out in the Bologna Declaration and current structures within universities

Policy misfit is a commonly used hypothesis in the area of Europeanisation (Falkner 2003; Börzel 2000; Börzel and Risse 2000; Héritier et al. 1996). Misfit is generally conceived of in terms of *policy misfit*, and *institutional misfit* (Börzel and Risse 2000) and *polity/politics misfit* (Falkner 2003). The focus here was on policy and polity misfit, as institutional misfit – challenge to rules and procedures and the shared understandings attached to them – is less direct, and is closely related to the issue of values addressed through hypothesis 2. Policy misfit was considered in three parts: the policy goals and underlying problem solving approaches; the policy instruments or techniques used to achieve these goals; and the regulatory standards (Héritier et al. 1996; Börzel 2000; Börzel and Risse 2000). According to Falkner (2003), the type of misfit may be one of grade (i.e. the use of credit points, but with allocation system) or a matter of principle (meaning that structures have to be replaced). Once actors are faced with a situation of misfit which demands change, they go through a period of problem analysis to identify goals. As the way to achieving these goals is uncertain and involves the weighing up of alternative solutions it is possible that even in the case that goals are similar the problem solving approaches adopted in different institutional contexts may differ (Héritier et al. 1996).

Polity misfit refers to the changing of administrative routines – from an institutional standpoint this includes the routines and procedures and the collective understandings attached to them (Börzel and Risse 2000). A case of policy misfit without polity misfit could include a difference in the credit point allocation which can be solved by a mathematical recalculation as opposed to a change in the routine of administering credit points, or the division of a current five year degree into the 3+2 structure without any changes to how the degree is delivered (teaching hours, exam structures, etc).

The degree of misfit was classified as high, medium, or low (see tables 4.7 and 4.8). The degree of policy misfit was a balance between the legal misfit and the practical implications, which could be less than the legal misfit would suggest, for example where actors were acting in a Bologna compatible way as a result of informal rules, which is not recorded in the formal rules. Building on Falkner, the guide outlined in tables 4.7 and 4.8 was used to classify misfit for each element.

<table 4.7>

<table 4.8>

The policy misfit was assessed based on the policy goals, the problem solving approach, and the regulatory standards. The goals, approaches and standards outlined in the Bologna declaration and follow-up documents outlined below were compared to those in the university departments prior to implementation. The level of misfit, classified as high, medium or low, was scored quantitatively – high misfit received 3 points, medium 2 points and low 1 point. 'No misfit' received 0 points.

The data for testing this hypothesis were taken from the interviews, as well as university publications and the online questionnaire. In some departments the starting structures had been changed only slightly to achieve compliance, whereas in others a complete reform had taken place. Interviewees were therefore asked not only about the amount of change, but also the extent to which previous ways of doing things had been incorporated into post-Bologna structures. The individual assessment was not used as a standalone measure, it was supplemented with information gained from interviews with other members of the department/faculty/university (asked the same questions), course books and web-based information about pre-Bologna structures, and relevant comments made in the online questionnaire. The data used for each element of fit is shown in table 4.9.

<table 4.9>

Where policy goals concerned values – such as the importance of the comparability and compatibility of degrees, student mobility and promotion of the European Higher Education Area – the departmental means based on responses from interviews and the online questionnaire were used. These are listed in appendix 5. Respondents were asked to rate the importance on a scale from 1(unimportant) to 5 (very

important). Where the mean was above 4 (important) there was no misfit, from 3 to 3.99 the misfit was low, between 2.00 and 2.99 the misfit was medium, and less than 1.99 the misfit was high.

To recap, the policy goals of the Bologna Process are

- improved comparability and compatibility of degrees
- the development of a strong framework for quality assurance
- improved student mobility
- improved staff mobility
- the promotion of a European Area for Higher Education

The problem solving approach is

- the development of two-tier degrees, a Bachelor and a Master's
- the use of credit points (ECTS)
- the use of the diploma supplement
- the promotion of European dimensions in Higher Education (joint degree programmes, language training, inter-institutional cooperation, integrated programmes of study, etc.)

The regulatory standards presented by the Bologna Process are quite loose, the general idea being that the structures are introduced in the way that best fits the national model. Those which are outlined include

- stringent assessment criteria for quality assurance, including the participation of students
- credit points are based on working hours with a basis of 1500–1800 hours work (including contact time and individual working) a year (60 ECTS per full time academic year)
- the bachelor degree is three years and 180 credits, the master's degree is two years and between 90 and 120 credits.
- the bachelor degree has a modular structure.

Time

The time period in question when considering ‘fit’ varied between departments. Analysis focused on “before implementation of the Bologna reform”, rather than “prior to 1999”. This is particularly important in the case of the UK where, at the time of

analysis, reform was only beginning to be considered in one university and no action had been taken in the other.

H2: The key values held within the universities

The choice of values was based on Capano's (1999) work on the reform of higher education in Italy and the UK. Capano suggests that values and beliefs should be considered as consisting of *cognitive* and *affective* elements. The cognitive elements are the shared ideas held by actors concerning cause and effect. These include ideas about: the role of the state, mechanisms of funding, admission procedures, the status and duties of academics and the distribution of authority, and levels of structural/functional differences within the system. The affective elements include the deep core ideas concerning higher education. To operationalise key values, Premfors'(1982) work on core values in higher education was drawn on to obtain five elements: excellence, equality, accountability, autonomy, and efficiency.

Excellence was conceived of in terms of which students were admitted to universities and the importance of excellence in teaching and research in the university. The importance of equality was demonstrated in admissions policies and access for students from different economic backgrounds. Accountability was considered in terms of the "wider society" to which the university should be accountable, be it local, national, political, or market oriented. Autonomy was divided into the university, faculty, departmental and individual levels. Efficiency was framed as economic efficiency.

In addition, the Bologna reform brings a number of values which will be more or less important to those working in European universities, namely the importance of comparability, compatibility, equal admissions for national and international students and improved international student mobility. These were included as a sixth group of international elements.

In the questionnaire and online survey, the value questions asked actors to rate each individual item in terms of its importance on a scale from 1 (unimportant) to 5 (important). Actors were then asked whether the elements are important to them, and then how they think the Bologna Process had impacted on these elements: positive, negative, no effect or don't know.

The perceived impact of the reform was either negative (it poses a threat to the key values), positive (it supports the key values), or neutral (there is no impact on the key values). Within the theoretical framework outlined in chapter 3, the implementation of the Bologna reform would be eased where it was in line with the key values held in the university: that is where the impact on key values was thought to be neutral or positive and there was no threat to core beliefs. A quantitative value was assigned to each department by multiplying the average importance of the value in the department by the percentage of respondents reporting no impact, or a positive impact of the Bologna reform. For each of the groups of values (autonomy, accountability, etc.) an average was taken, and these were then added together to give a total compatibility score for the departments. The higher the figure, the more the reform was perceived as being in line with key values.

H3: More centralised systems

The degree of centralisation is a matter of where power over higher education resides. Although there are a number of levels at which decisions can be made, as is show in figure 4.4 below, centralisation was defined as the degree of government control over what happens in universities.

<figure 4.4>

The key activities used for measuring control were state involvement in the allocation of resources, key decisions and policy formation (Hage and Aiken 1967; Mock and Morse 1977). As the focus was at national level a large proportion of the information on centralisation was taken from the national level study “University Autonomy in Europe: Exploratory Study” carried out by the European University Association (Estermann and Nokkala 2009). This study, based on online questionnaires and follow-up interviews with members of the National Rectors Conferences, provided an overview of the degree of autonomy of universities in the national systems based in four areas: organisational autonomy (internal academic and administrative structures, governing bodies, and executive leadership), financial autonomy (funding framework and financial capacity), staffing autonomy (recruitment, status, and salaries) and academic autonomy (setting the academic profile, creation of degree programmes, and student admissions). In the report, autonomy is framed in terms of the changing relationship between universities and the state, with the focus on the degree of

control exerted by the state (Estermann and Nokkala 2009). Consequently the information could also be used to consider the degree of centralisation. Based on the information in the paper, the national/cantonal systems were given scores for the relative level of centralisation for each category presented in the report. In each case 3 was the highest level of central control, 0 the highest level of university autonomy. Where gaps appeared in the data, for example in the different arrangements in the Swiss Cantonal and federal universities, these were filled based on the appropriate federal, cantonal or university regulations.

In addition to the centralisation scores for the university from the report, two additional measures were included in the centralisation score at university level. The first was the percentage of funding coming from government sources in each university, taken from annual reports for 2007 (2006/07 where reporting is according to the academic rather than calendar year). The highest level of central funding was given a score of 3, the rest were scaled accordingly. The second was the level of centralisation in decision-making regarding the Bologna reform, also indicated on a 0-3 scale where 3 was a highly centralised approach, and 0 a decentralised approach. The information for scoring this was based on interviews with personnel and the national reports. The centralisation of the implementation of the Bologna reform was scored 3 where government policy demanded implementation, 2 where government action hindered implementation through the lack of resource provision (as arguably universities still had the option to react or not, but the choice of response was limited), and 1 where government implementation was late. 0 points would be awarded in the theoretical case that government support was available but changes were not mandatory. This scoring was based on the information on national implementation, outlined in chapter 5.

H4: Strong competitive pressure

Competition in universities takes many forms, but in terms of the Bologna Process a key tangible aspect is international mobility. A prime motivation for universities to comply was the competition for the best international students, for both excellent candidates, and for the income from higher student fees. As a variable for competitive pressure the number of international students as a proportion of the total student population in the year 2005 was taken: a low number of international students indicated less pressure to compete, and, potentially, to conform. It was

intended that the international student population at the start of the process should form the basis for testing this hypothesis, but statistics for 2000 were not available for all universities (the specialised British university kept records on a fee paying basis: The number of UK and EU, and non-EU students, not UK and non-UK students). The data for 2005 gave a snapshot of the importance of international students at the middle point of the internationally defined period of implementation (1999-2010), and it was too early in the process for the Bologna reform to have had a significant impact on the figures.

The data was taken from university websites where possible. Where international student numbers were not publically available or not reported in a comparable format, figures were obtained directly from the university faculties. Statistics for individual departments were not available in all cases, so the universities are compared on the corresponding faculty levels.

Because the universities record international student data very differently, decisions had to be made as to what form the data should take. For pragmatic reasons, all international students, that is students that were not citizens of the country in which they were studying, were included, rather than just European students – data in the Netherlands and Switzerland did not allow this distinction to be made. In the UK doctoral students are included as students, whereas in the Netherlands and Switzerland they are employees of the university. For the figures used here, all those writing their doctoral thesis were included as students. Doctoral candidates were considered an increasingly important part of the Bologna reform, and an important part of the universities education programme, particularly in the establishment of graduate schools which include both master's level and doctoral level programmes.

H5: Entrepreneur pushing through change

Crucially policy entrepreneurs can be recognised by the actions they take rather than the positions they hold (Kingdon 1984). An entrepreneur requires a different role than being purely professional – a more active pursuit of a particular idea and the drive to persuade others to follow (Price 1971). To find out whether an entrepreneur was involved in the process actors in interviews were asked firstly to describe the process of decision making regarding the Bologna reform in the university and the department, and secondly whether any one person or group had been particularly

“pro” changes resulting from the Bologna Process to identify any persons who acted as drivers in the process beyond their job description.

4.5 Conclusion

Overall the process of data collection was long and detailed, at times with large amounts of effort chasing respondents or searching for documents, for minimal gain. Without all three sources of data however the research questions could not have been answered, although the process of data collection might have been improved had the order been different.

The starting point for gathering information was the Bologna Documents, and the national reports. These were openly available and informative, but had to be complemented with university level information. The university level documents were less easily accessed than the national level reports. As is mentioned above, the availability of information through the websites varied dramatically. Ideally university regulations and changes in course structures should have been looked at in detail before interview to allow more targeted questioning, but in many cases it was only through interview that it became clear what was important, what was available, or what might have to be accessed through the interviewee.

While the documents were crucial to understanding the levels at which decisions were made, and the concrete changes that have occurred, they told only a limited story at the university level. The interviews, the second round in data collection, were invaluable in providing a picture of what was actually happening in the departments, where decisions were made and how the process was being received. Meeting those involved and seeing the stark contrasts in enthusiasm and reluctance, or where changes were simply a matter of course, spoke a great deal about the response in different departments. The interviews also filled countless gaps in information which would not have been accessible in other ways. However, identifying and making contact with the correct people, and organising interviews in blocks, was challenging at times. With the benefit of hindsight one might say that the selection of more accessible universities, for example Germany as the original Humboldtian system and France as a centralised Napoleonic system, would have eased the process, but much would have been lost in the exclusion of the Anglo-Saxon system, and the delayed start in France meant the importance of a centralised system would probably

be less evident than in the Dutch case. The reluctance of actors in some departments to participate could not be overcome.

Finally, the online questionnaire was carried out in the middle of the process of interviewing. Perhaps a better approach would have been to do it before the interviews took place. Advantages of this would have included a stronger background knowledge of what was going on in the departments, the ability to follow up key points arising from the questionnaire, and the possibility of identifying key actors from the level of knowledge, or indeed through asking directly who is responsible in a particular department. As it stands however, the questionnaire does what it was intended to do: It gives an overview of the values and wider responses to the Bologna reform. Admittedly, this overview is to a certain extent limited by the low response rate. Where lack of response is due to a lack of knowledge about the reform, this cannot be helped. It was hoped that having a contact already in the department may have boosted response rates, but clearly this was not always the case.

In terms of the specific variables, the dependent variable compliance, and independent variables “values”, “fit”, and “presence of an entrepreneur” were relatively straight forward to operationalise and measure using the data collected, although the arbitrary nature of the assignment of values for higher or lower levels of fit leaves room for critique. Where the variable “values” is problematic is in the likelihood of a lack of variation; the values were chosen precisely because they were suspected to be important. It may have been lucrative to place more emphasis on the general values promoted by the Bologna reform, such as the principles of transparency, student choice and growth of competition (DuClaud Williams 2004). On the other hand, compromises had to be made in the operationalisation of competitive pressure and the level of centralisation. At first it was hoped that competitive pressure could be measured through participation in international organisations. Initial research proved this would be impossible to quantify, as formal or informal participation by individual members of staff in international/European organisations and research groups could not be easily aggregated at the departmental level. The measure of the number of international students was taken as a second option, but an advantage of this approach is that it gives a strong indication of the importance placed on international competition as it is framed in the Bologna Declaration. The

use of the EUA report as a basis for quantifying the level of centralisation overcame difficulties in quantifying the involvement of the state in key decisions and particularly in policy formation at the university level – a task which proved very challenging . The quantification methods used are still flawed as the gap between a centralisation score of 1 and 2 is not equal to that between 2 and 3, but with the information available this was deemed an acceptable solution.

While there is room for improvement in the process of data collection, with a more ordered approach culminating in the interviews, and a number of false starts in the quantification of variables could have been avoided with better knowledge of the workings of a university department and wider research into the availability of information on European higher education systems, the data as it stands allows the research questions to be addressed.

Tables and Figures

Figure 4.1 Overview of assumptions and hypotheses

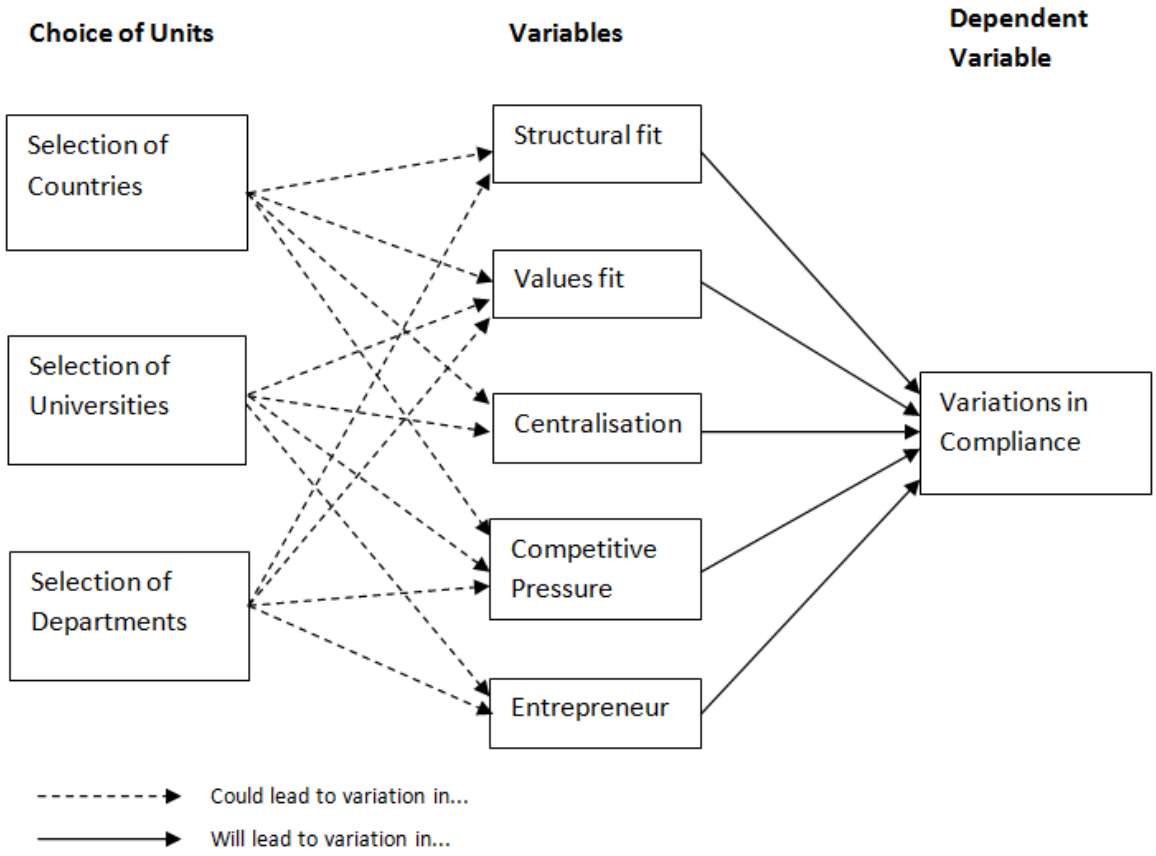


Table 4.1 Choice of regions

	CHF	CHG	NL	UK
Original degree structure	Lizentiat (four years)	Lizentiat (four years)	Doctoraal (four years)	Bachelor (3 years) Master (1 year)
Model of university	Napoleonic	Humboldtian	Humboldtian to Anglo Saxon (American)	Anglo Saxon
Political system	Federal	Federal	Centralised	Centralised
State control	Medium	Medium	High	Low

Table 4.2 Choice of universities

	General University			Specialised University		
Country	**Name**	**Year founded**	**Number of Students (200/04)**	**Name**	**Year founded**	**Number of Students**
UK	Birmingham University	1900	24 900	Imperial College of Science, technology and medicine	1907	10 721
NL	University of Amsterdam	1632	23 861	Delft	1842	12 925
CHG	Zurich University	1833	23 421	Federal Technological Institute Zurich (ETH)	1855	12 505
CHF	University of Geneva	1559 (1873)	14 620	Federal Technological Institute Lausanne (EPFL)	1853	5 573

Table 4.3 Nature of chosen subjects. The placement of the letter indicates the location on the subject on the given spectrum.

Orientation		Knowledge		Development	
National	International	Procedure	Oucome	Convergence	Divergence
H		H			H
	P		P	P	
L			L		L
	ME		ME	ME	

Figure 4.2 The choice of research units

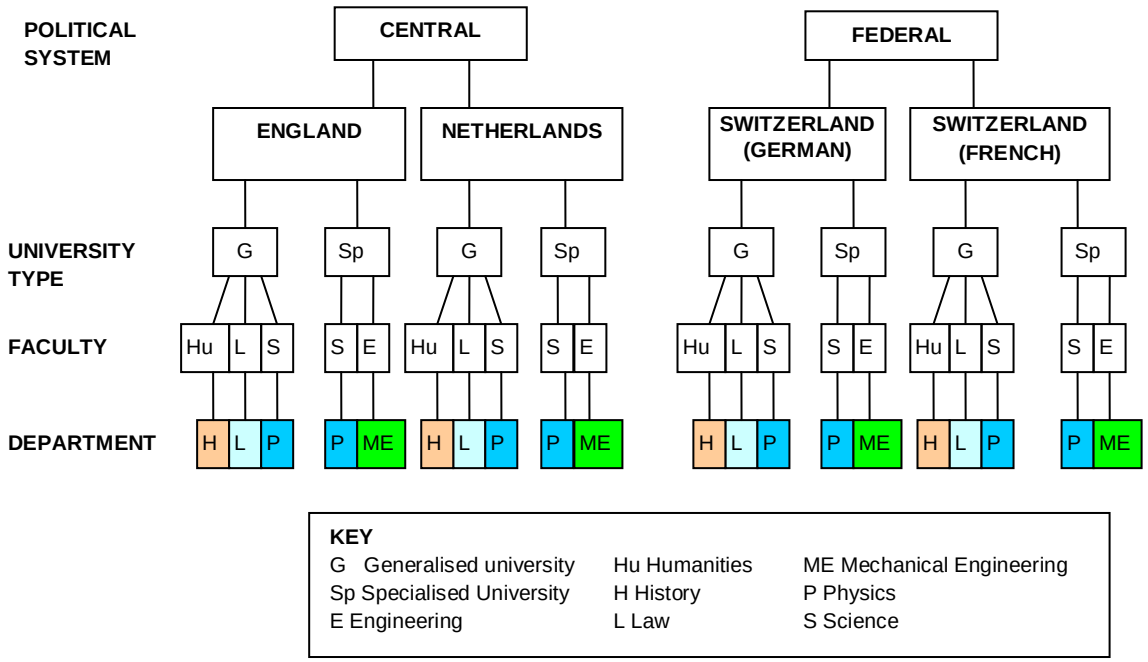


Table 4.4 Levels of delivery of courses in chosen universities

University	Subject	Level of delivery of courses
UK G	Physics	School of Physics
	History	School of Historical Studies
	Law	School of Law
UK S	Physics	Department of Physics
	Mechanical Engineering	Department of Mechanical Engineering
NL G	Physics	Department of Natural Sciences, Astronomy and Maths
	History	Department of History, Archaeology and Area Studies
	Law	Faculty of Law
NL S	Physics	Department of Multi-scale Physics
	Mechanical Engineering	Faculty of Mechanical, Maritime and Materials Engineering
CHF G	Physics	Physics Section
	History	Department of General History
	Law	Faculty of Law
CHF S	Physics	Physics Section
	Mechanical Engineering	Mechanical Engineering Section
CHG G	Physics	Institute for Theoretical Physics
	History	History Seminar
	Law	Faculty of Law
CHG S	Physics	Department of Physics
	Mechanical Engineering	Department of Mechanical and Process Engineering

Figure 4.3 Interviews carried out

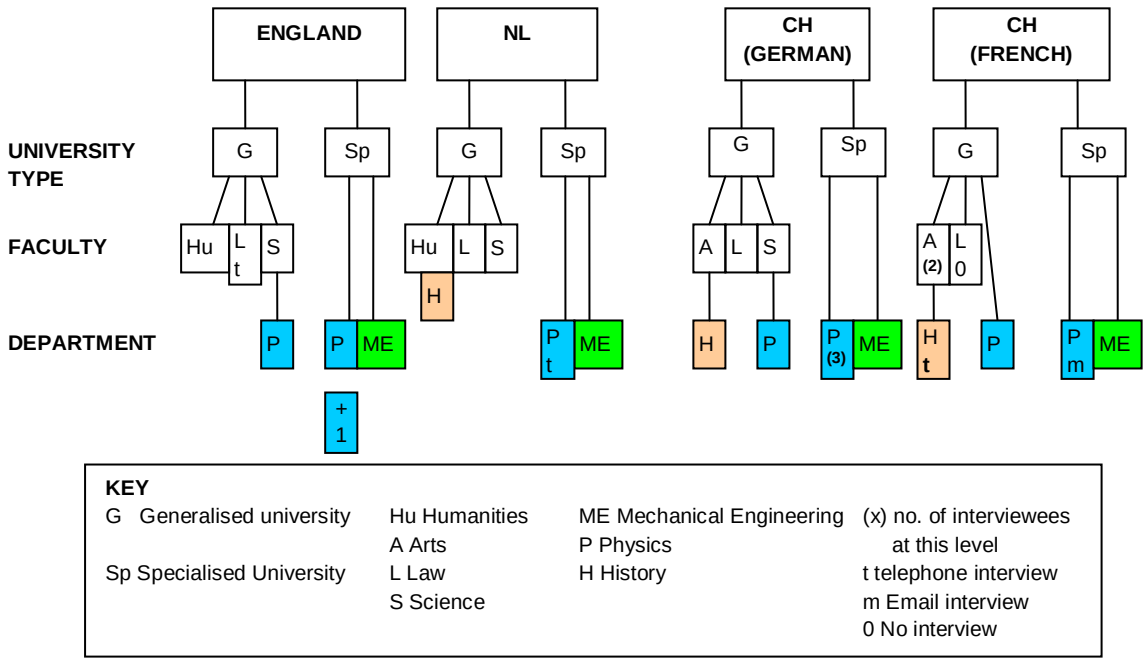


Table 4.5 The directives in the Bologna Process

Aim	Source
Adoption of easily readable and comparable degrees, also through the implementation of the Diploma Supplement (DS)	Bologna, 1999
Every student graduating from 2005 should get a DS in a widely spoken European language	Berlin, 2003
Adoption of a system essentially based on two main cycles	Bologna, 1999
Access to the second cycle based on successful completion of a first cycle lasting a minimum of three years	Bologna, 1999
The degree awarded after the first cycle is appropriate for entrance into the European labour market	Bologna, 1999
Increase employability of graduates with Bachelor level qualifications	Bergen, 2005
The second cycle should lead to a Master's and/or doctorate degree	Bologna, 1999
Implementation of two-cycle system to have been started by 2005	Berlin, 2003
First cycle should typically include 180-240 ECTS credits	*
Second cycle should typically include 90-120 ECTS credits, with a minimum of 60 ECTS credits	*
Establishment of a system of credits	Bologna, 1999
ECTS or ECTS compatible with transfer and accumulation functions	Prague, 2001
Focus on the proper implementation of ECTS based on learning outcomes and student workload	London, 2007
Promotion of mobility by overcoming obstacles to the effective exercise of free movement	Bologna, 1999
For students, access to study and training opportunities	Bologna, 1999
For teachers, researchers and administrative staff, recognition and valorisation of relevant time spent abroad	Bologna, 1999
Advocate full recognition of time spent abroad	Bergen, 2005
Promotion of European Cooperation in quality assurance	Bologna, 1999
Development of comparable criteria and methodologies	Bologna, 1999
Collaboration in networks to establish a common frame of reference and facilitate best practice	Prague, 2001
Definition of responsibilities or bodies involved	Berlin, 2003
Evaluation of programmes, institutions, including internal and external assessment, student participation and publication of results	Berlin, 2003
System of accreditation, certification or something comparable	Berlin, 2003
Adopt standards and guidelines outlined by ENQA	Bergen, 2005
Promotion of the necessary European dimensions in higher education	Bologna, 1999
Curricular development	Bologna, 1999
Increase no. of courses with European content, orientation or organisation	Prague, 2001

Importance of further curricular reform leading to qualifications better suited to the needs of the labour market	London, 2007
Inter-institutional cooperation	Bologna, 1999
Mobility schemes	Bologna, 1999
Integrated programmes of study	Bologna, 1999
Partnership with institutions from different countries and leading to a recognized joint degree.	Prague, 2001
Joint degree programmes include a substantial period of study abroad, with language training provided	Berlin, 2003
Lifelong learning	Prague, 2001
Encourage the sharing of best practice and work towards a common understanding of the role of HE	London, 2007
Doctoral level	
Inclusion of doctoral level as third cycle	Berlin, 2003
Doctoral level qualifications need to be fully aligned with the EHEA overarching framework for qualifications using the outcomes-based approach	Bergen, 2005
Cycles should be 3 or 4 years full time	Bergen, 2005
Doctoral cycle should include interdisciplinary training and development of transferable skills	Bergen, 2005
HEIs are invited to reinforce efforts to embed doctoral programmes in institutional strategies and policies and to develop appropriate career paths and opportunities for doctoral candidates and early stage researchers	London, 2007
Other	
Introduction of 'innovative teaching and learning processes'	Bergen, 2005
Importance of partnership between higher education institutions, staff and students, organisations representing businesses and social partners, international institutions and organisations	Bergen, 2005
Equal access unrelated to economic or social background	Bergen, 2005
Importance of graduate employability	London, 2007

* Framework of qualifications for the European Higher Education Area

Table 4.6 Scoring of the dependent variable

Aim	Point allocation
Diploma Supplement	
Every student graduating from 2005 gets a DS in a widely spoken European language	3
Adoption of a system essentially based on two main cycles.	3
Access to the second cycle is based on successful completion of the first cycle	3
The degree awarded after the first cycle is relevant to the labour market as an appropriate level of qualification	2
The second cycle leads to a Master's and/or doctorate degree	3
Implementation of two-cycle system to have been started by 2005	3
The first cycle lasts a minimum of three years and is worth 180-240 ECTS credits	3
The second cycle lasts one to two years and is worth 90-120 credits	3
Establishment of a system of credits	
The credit system uses ECTS or is ECTS compatible with transfer and accumulation functions	3
Credits are based on learning outcomes and student workload	3
Promotion of mobility by overcoming obstacles to the effective exercise of free movement	
Promotion of mobility for students, access to study and training opportunities	2
Promotion of mobility for teachers	2
Full recognition of time spent abroad	2
Promotion of European Cooperation in quality assurance	
Definition of responsibilities or bodies involved	1
Evaluation of programmes and institutions, including internal and external assessment, student participation and publication of results	1
System of accreditation, certification or something comparable	1
International participation, co-operation and networking	1
Adopted standards and guidelines outlined by ENQA	1
Promotion of the necessary European dimensions in higher education	
Increased no. of courses with European content, orientation or organisation	2
Inter-institutional cooperation	2
Mobility schemes	2
Integrated programmes of study	2
Establishment of joint degrees consisting of modules, courses and degree curricula offered in partnership by institutions from different countries, including a substantial period of time abroad.	2
Doctoral level	
(Planned) Inclusion of doctoral level as third cycle	2
Total	**58**

Table 4.7 Policy misfit

	Policy goals	Problem solving approach	Regulatory standards
High	Completely new goals	Completely new approach	Completely new rules, far reaching gradual changes, and/or important qualitative innovations with no practical limitations.
Medium	A large change in the goals or some changes in qualitative elements, with no limitations on the practical significance.	A large change in the approach, or some changes in qualitative elements with no limitations of the practical significance	High level of legal misfit with limitations on the practical significance. Medium level of legal misfit – a large change in the rules or some changes in the qualitative elements, with no limitations on the practical significance.
Low	A medium level of misfit but with limited practical significance or a low level of misfit	A medium level of misfit but with limited practical significance or a low level of misfit	A medium level of legal misfit with limited practical significance. A low level of legal misfit
None	No misfit	No misfit	No legal misfit

Table 4.8 Polity misfit

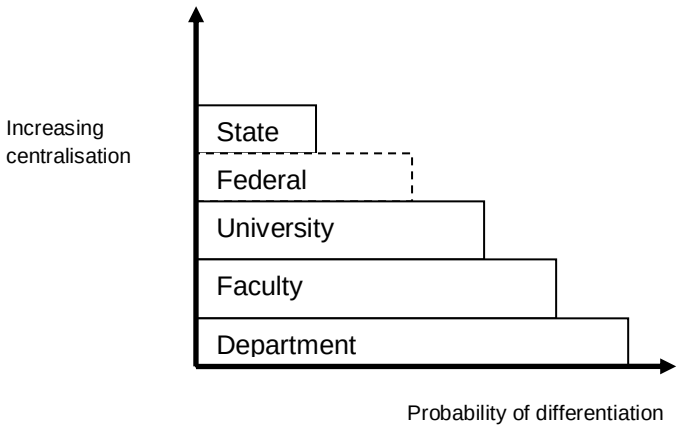
High	A major challenge to crucial procedures and understandings
Medium	A less important, but still significant challenge to crucial procedures and understandings
Low	A limited challenge to crucial procedures and understandings
None	No change necessary

(Tables 4.7 and 4.8 adapted from Falkner 2003)

Table 4.9 Sources of data

	Primary Data			Secondary data		
	Department Interview	Faculty Interview	Questionnaire	Course outlines	University website	Outside organisation
Policy Goals						
Comparability and compatibility	●	●	●			
Framework for QA	●	●				●
Improved student mobility	●	●	●			
Improved staff mobility	●	●				
Promotion of EHEA	●	●	●			
Skills focus	●	●				
Problem solving approach						
2-tier degrees	●	●		●	●	
Use of credits	●	●		●		
Use of DS	●	●				
Promotion of European dimension	●	●		●		
Focus on skills	●	●				
Regulatory standards						
Stringent assessment QA	●	●				●
ECTS compatible	●	●		●		
3 year Bachelor, 2 year Master	●	●		●		
Modular structure	●	●		●		

Figure 4.4 A Pyramid of power



Chapter 5 Levels of Decision Making

In this chapter I will focus on the key levels of decision making related to the implementation of the Bologna reform. I begin by outlining the national approaches to the Bologna reform, and then move on to consider the room for manoeuvre in the chosen universities. It will be shown that the state acted as a stronger or weaker agent for stability or for change and that consequently the room for manoeuvre in the individual universities differed in the three countries studied. In the Netherlands the state set strong standards for what had to be achieved by when. Despite comprehensive reforms, actors in universities in Switzerland had a window of opportunity to shape the changes that were taking place, whereas those in England are limited, rather than enabled, by the lack of state response.

5.1 National approaches to the Bologna reform

Here I will give an introduction to each of the national systems in turn. For each I will begin with an outline of the organisation and funding of the higher education system. I will then review the (changing) relationship between the state and higher education and the path of development, focussing on internationalisation, and examine the instruments used to drive developments. This sets the context for the implementation of the Bologna reform. Finally, I will present the national response to the Bologna Process up to the time of interview, which is markedly different in each case. In Switzerland the focus is on maintaining the autonomy of the cantonal universities, while taking advantage of the opportunity to unify the national system. In the Netherlands the process is also taken seriously, but with less awareness of the importance of internal differences. Here the government has taken an active and dominant role from an early stage and changes are to be implemented. In England the basic attitude is that many elements, including the national two-tier degree system, quality assurance, and focus on learning outcomes, are already compliant so the rest can be ignored, or the demands can be altered so the English system fits.

5.1.1 England

Organisation and funding

Within the United Kingdom control of higher education is administered separately in England, Wales, Scotland and Northern Ireland, England having 75% of students distributed amongst 132 publicly funded institutions (Green 2004). While financial investment may be high, the political role of the state is limited, but is far greater than

it once was. Traditionally, the British system was marked by distance between the state and the university, the university was in essence protected from the state (Neave 2003), but the Thatcher-led reforms of the 1980s, the dissolution of the University Grants Committee in 1988, and changes in the funding structures have increased political control in higher education. English higher education now falls under the remit of the Department for Education and Skills (DfES) and funding is delivered as a block grant by the Higher Education Funding Council for England (HEFCE). Although some of the budget is retained centrally for sector-wide activities, the rest is delivered to the universities. On the one hand this pattern of funding is a mark of the autonomy of institutions, but on the other it comes with strong expectations attached. Although it could be argued that the British government rarely exercises its legal power over universities, and as such they are still highly autonomous (Eustace 1992), these structures point to a system of reward and punishment attached to strong national rules (Cowen 2008).

The state and Higher Education

Since 1979 the United Kingdom's approach to higher education has been increasingly directed towards measured performance, and the needs of the market. The widespread attempt to reduce public spending and promote personal responsibility seen in the UK in the Thatcher era also covered higher education, with moves towards more efficient management, and away from a system driven by academic and research goals (Eustace 1992; Henkel and Kogan 1999). This period was marked by a successful increase in student numbers while maintaining selectivity, a reduction in reliance on government funding with increased diversity in funding sources, and an entrepreneurial approach to higher education. In the early years these changes have been most felt in newer lower status universities, with high status institutions being more focussed on maintaining academic position (Henkel and Kogan 1999). However, since the clear divide between academic universities and the vocational colleges was dissolved in 1992, all universities have been subject to these changes (Cowen 2008).

The phase of modernisation started under the Conservative government was continued following the election of the Labour government in 1997, and the rhetoric surrounding the response to the Bologna Process appears to emphasise the role of the university in servicing to the economy. In his speech to the European Council in

2005 Tony Blair pointed to tertiary education as one of his top priorities for the British EU presidency: “Let's be absolutely clear about the situation in Europe today. Our university sector is not competing in the way it needs to with America… we don't have anything like the same possibilities in Europe that they have in other parts of the world.” The same view underpinned the welcome address at the 2007 Bologna Conference in London; “A recent report… on the future needs of the UK economy predicted that by 2020, 40% of our jobs will require graduate qualifications… there is still a long way to go in this country to fill those future vacancies. But this is not just a problem for individual countries. The Bologna Process is aimed at developing much more ambitious solutions.” (Rt Hon Alan Johnson 2007).

The UK has been referred to as an example of “internationalisation by import”: as in the USA, internationalisation has been focussed around hosting foreign students and international research is considered only if it is published in English, usually in an English speaking country (Teichler 1999). Internationalisation policies have not appeared explicitly in British higher education policy (Elliot 1998; Williams and Coate 2004). The lack of interest at the national level is largely because, prior to 1997 at least, specific policies on internationalisation had not been necessary. The attractiveness of courses in English, the strong reputation of British universities, and the autonomy of institutions mean that, if internationalisation is considered in terms of attracting international students, England has been in a strong position without the need for government intervention. The percentage of students that are international is higher in the UK than many other European countries (see table 5.1). Whether as a result of the provision of courses in English, or the quality of education, there is no questioning the fact that among the countries chosen for this study the UK is the leading destination for students involved in EU mobility programmes by a large margin (figure 5.1). As with the majority of British higher education policies, the promotion of internationalisation is largely driven by the economic imperative (Williams and Coate 2004). More desirable than EU students are those coming from further afield (figure 5.2), bringing with them higher fees, as well as different educational and cultural experiences and knowledge of and links to fast growing markets. Asia is a particularly important market, with 116 065 Asian students being enrolled in full degree programmes and 115388 Asian mobile students in the UK in 2004 (OECD 2004).

< table 5.1>

<Figure 5.1>

<Figure 5.2>

However, poor knowledge of foreign languages and lack of drive to gain international experience has resulted on proportionally low numbers of students leaving the UK to study elsewhere, as table 5.2 shows. In the UK in the year 2000 about 2 percent of students were enrolled in a degree programme in a foreign country, less than half the figure for Switzerland.

<table 5.2>

In addition to the lack of internal pressure for internationalisation, prior to 1997 the pressure for change from the European level was not really felt either. The limited number of policies could be incorporated into the existing institutional framework (McNay 1995).

Instruments

New approaches to management have been achieved by Government intervention at the system level, resource allocation arrangements and performance-based funding within universities (Taylor 2003). The development of a strong system of quality assurance was achieved without strong government intervention however. The independent Quality Assurance Agency (QAA) was established in 1997 as a consequence of increasing interest in regulating quality and standards in higher education. Although the organisation is owned by the universities and other higher education institutions and funded by subscriptions from higher education institutions and links with the main British higher education funding bodies, the mere threat of the use of central authority tools was enough to drive change (Taylor 2003).

National response to Bologna

The initial progress of, and British Involvement in, the Bologna Process was overseen by the Europe Unit. Launched in January 2004 and sponsored by both governmental and academic organisations, this unit focused on raising awareness of European issues in the UK and of the UK in Europe. Since August 2010 it has been merged into the UK Higher Education International Unit (IU). In its former role, and now under the IU, the Europe Unit worked closely with the governmental bodies responsible for

higher education, although the priority given to the Bologna reforms by these bodies was limited – seven years after the UK signed up to the Bologna Declaration, investigation of the Bologna Process through the DfES website was largely futile. The position put forward by the Europe Unit was informed by a High Level Policy Forum and a European Coordinating Group, including representatives from DfES and the other governmental departments responsible for higher education in the UK, the QAA, Universities UK (UUK), the Standing Conference of Principles (SCOP), and UK NARIC (the National Recognition Centre for the UK) (Green 2004). The implementation of the recommendations outlined by the Europe Unit was supported by 14 Bologna Promoters, a group of higher education professionals who were selected based on recommendations by the UK Socrates-Erasmus Council to offer advice and information to Universities and promote the implementation of the Diploma Supplement, Credit Point system and measures concerning staff and student mobility.

A brief overview of the role of the Europe Unit can be gained through looking at its stated objectives (Europe Unit 2005):

- to raise awareness of the European issues affecting UK higher education
- to coordinate the UK's involvement in European initiatives and debates
- to strengthen the position of the UK higher education sector in debates over the Bologna Process and EU policies and initiatives.

Of the three objectives, two were oriented towards representing the UK in Europe, and the other towards disseminating information, for example on the UK's position on different aspects of the Bologna Process. This seems reflective of the general attitude towards the Bologna Process at the UK level at the time of research, which might be summarised as: "It is an important development, but should take place on our terms".

Specific activities related to the Bologna Process in the UK are coordinated by specialist bodies such as QAA or UK NARIC, who offer advice on the recognition of international qualifications in the UK and UK qualifications elsewhere, under contract to the DfES. At the national level the main elements of the Bologna Process (credit points, recognisable degrees) are supported, but the UK has a particularly conservative attitude to implementation. UK institutions are warned against

complacency, and the advantages of participation are outlined, but the national government's response is based around the idea that Britain is already very similar to the new structures, and little change is therefore required, and where it is required, changes at the European level should be adapted to include the British system. The starting position of the UK is summarised in the House of Commons Education and Skills committee report on the Bologna Process:

> "It can reasonably be claimed that the UK is in a unique position within the EHEA. The UK has a three-phase degree structure or cycle in place, similar in most respects to that espoused as a standard by the Bologna countries, and a global reputation for high quality higher education provision maintained by a well-developed and independent quality assurance system making it the second most popular destination in the world for international students, behind the US." (Education and Skills Committee 2007).

In the case that decisions made at European level did not fit the British structures; the UK adopted a second strategy often observed at the European level: to try to shape the Bologna Process to be more in line with what is already in place within the UK (see for example Héritier et al. 1996 for a review of the use of this strategy in environmental policy). This strategy is adopted to reduce the need for legal and institutional change, but also to limit the economic cost of harming the place of the UK in the international student market, although the long term security of the British position may be threatened by the increased use of English in teaching and the lower costs of studying elsewhere (Cemmell and Bekhradnia 2008). The view in the national political arena can be clearly illustrated with examples from the House of Commons Education and Skills Committee Bologna Process Report (April, 2007):

- Quality assurance: the UK system of Quality Assurance takes a "fundamentally different" approach to the rest of the EHEA, but the Government and Europe Unit "are working to ensure that the UK keeps control of its own QA arrangements whilst in parallel also working to shape and influence the development of QA systems across the EHEA."
- Credits : referring to the importance of learning outcomes in a credit framework as outlined in the Burgess report, "we conclude that the European

Credit Transfer Scheme (ECTS), based solely on output or 'hours studied', is not fit for purpose" as a result the committee asks that "the Government and the UK HE Europe Unit continue to lobby for the ECTS system to be reformed and, more broadly, for a cultural change towards an outcome-focus to be adopted not just in theory but in practice across the EHEA."

- Master's qualifications : this is a key area of concern for UK institutions as the ECTS guidelines have suggest that one full year of full time study – the length of many British Master's degrees – is worth a maximum 75 ECTS. A Master's degree must be worth 90 – 120 ECTS. The government's response to this was that the European Commission's User Guide on ECTS is non-compulsory, so the one year Master's degrees and MSci degrees are Bologna Compatible (Department for Education and Skills 2007). The importance of ECTS internationally however led to the committee suggesting this response was inadequate, instead "[t]he Government should seek a commitment from the European Commission for the removal of the 75 ECTS per calendar year reference from the User's Guide"

The government response to these requests was to promote the balance between learning outcomes, workload and levels in ECTS, and assure universities in the UK that the Master's degrees mentioned are not incompatible with the Bologna model (House of Commons Education and Skills Committee, June 2007).

In his review of the national approach Cowen summarises: "Overall, then, the UK stance is very positive on such flexible mechanisms – unless they contain possibilities to disturb the strategic direction of development within the UK over the last 25 years" (Cowen 2008: 59). The response to European policy in higher education in the UK has not changed from pre- to post-Bologna. Credit points are a good idea, although not if they place more importance on the time taken to achieve goals than the achievement of those goals, Quality Assurance is good, as long as the established system is acceptable, mobility is good, but outward mobility is not promoted strongly within the universities which are more reliant on the funds of non-European students.

In summary then, the British government was not pushing the process of internationalisation, and was not particularly interested in the Bologna Process beyond limiting the extent to which it changed the current system. As in all other

areas of internationalisation, change was the business of the individual universities. While the major call from the United Kingdom was for flexibility in Bologna Structures, respondents expressed concern that this may mean that the lack of changes in the British system are acceptable formally, but not to continental Universities, employers or students. The British response left room for decisions at university level, but, based on response at the national level, there appears to be a danger that the United Kingdom, rather than leading in Europe, will find itself out of step, ironically as a result of thinking that the rest of Europe is becoming more in step with it.

5.1.2 Netherlands

The higher education system in the Netherlands is split into research universities and *hogescholen*, providers of professional higher education. Across the fourteen research universities, two main features of the Dutch university system are important in shaping the national response to the Bologna Process: The first is the traditional organisation of governance of (and in) the university, and the recent changes in this area. The second is the wider context of reform in higher education.

Organisation and funding

University funding in the Netherlands comes from three main sources: The Ministry of Education, Culture and Science (OCW), Dutch research councils, and third parties such as the EU or private companies (VSNU 2005) . Government funding through OCW comes in the form of an annual grant for teaching and another for research, to be spent at the universities' discretion. In addition to the Ministry, debates on higher education at the national level are also informed by the rectors' conferences – the Association of Universities in the Netherlands (VSNU) for research universities, and HBO-Raad for universities of professional education – and the student bodies, the Dutch National Students Association (ISO) and the Dutch Students Union (LSVB). Other advisory councils, such as the Education council and the Advisory council for Science and Technology may also be involved (Luitjen-Lub 2004).

Funding is available for courses which have received accreditation from the Dutch-Flemish accreditation organisation (NVAO) and are deemed appropriate for funding by the Ministry. The NVAO, a government funded organisation, was established in 2003 as result of the Bologna Process. It ensures quality in both the Netherlands and Flanders, through internal and external evaluations which also involve students

(NVAO 2005). It has a strong international orientation and is a member of ENQA, and as such is Bologna compliant.

State and Higher Education

Historically, the relationship between state and university in the Netherlands has been somewhat different to that in England. Dutch higher education developed according to the Humboldtian ideal: the university was largely an academic led research institution, protected from external (societal and market) forces by the state. Indeed the provision of higher education was the duty of the state, and as such the state was deeply involved in the running of universities. Since the 1970s there has however been a discernible shift in the way in which the university is viewed: the university is increasingly answerable to employers and industry, with increasing similarity to the Anglo-Saxon model (Frijhoff 1992). The strong control of government and senior academics has been reduced, giving university level actors more freedom and responsibility, as is reflected in the funding arrangements (Luijten-Lub 2004; Maassen 2000).

It is not sufficient, however, to say simply that the state has pulled back and the independence of universities has increased. The role of the government in Dutch higher education has changed since the 1970s, but has not necessarily been reduced. Writing about the marketisation of higher education, Jongbloed (2003: 131) suggests a shift can be observed from a relationship between the government and university based on ‘command’, ‘intervention’ and ‘regulation’ to one based on ‘empowerment’, ‘steering, ‘co-operation, ‘co-ordination’ and a ‘systemic’ approach.

While the process described above is similar to changes in the United Kingdom, Maassen (2000) suggests that a two other key factors have to be taken into account when considering the implementation of the Bologna Process in the Netherlands. Firstly, the country as a whole is highly internationalised with a particularly strong interest in its place in Europe, and higher education is no exception to this, as is outlined below. Secondly, a number of reforms for higher education were introduced in the 1980s including a new steering approach, a new comprehensive law, quality assessment measurements, and a new structure for teaching programmes in universities. In addition, these reforms, while being found across Europe, were implemented in the Netherlands in a relatively short time.

Returning to internationalisation in higher education, since the 1985 OECD review on Internationalisation this has become more pressing issue at national level, supported by a predominantly economic rationale (Luijten-Lub 2004). Internationalisation now forms a major part of the Ministry's strategic agenda (Department of Education Culture and Science 2007). The focus of both shorter and longer term policies is student mobility, with the aims of increasing the income of universities (short-term) and filling gaps in the labour force (long-term) (Luijten-Lub 2004). Internationalisation is assisted by the Netherlands Organisation for Internationalisation in Higher Education (Nuffic). Established in 1952, Nuffic 'strives to be the intermediary between the education community of the Netherlands and the international community' (Nuffic, 2006). The aims of the organisation stated on the website (2006) are as follows:

- to administer international mobility programmes
- to gather, order, and make available knowledge about higher education in other countries
- to gather, order and make available knowledge about Dutch higher education for other countries
- to encourage transparency between education systems
- to support Dutch universities with the internationalisation of their education

Internationalisation is thus addressed at home and abroad both within universities and at the system level.

Instruments

The main instrument of control over Dutch universities since the second world war, as in the United Kingdom, has been financial. However, certain aspects of the Bologna Process are legally binding. The implementation of the two cycle system is overseen by the Inspectorate for Higher Education on behalf of the ministry, and the implementation was reviewed in 2007 (Leegwater 2005).

While universities have a legal obligation to implement the Bologna Process (as is outlined in more detail below), the development of legislation in the Netherlands is a consultative process involving the Rectors' Conference for Research Universities (VSNU) and Rectors' Conference for Universities of Professional Education (HBO Raad), along with the two Dutch student organisations ISO and LSVB (Leegwater 2005).

National response to the Bologna Process

Dutch universities have a certain amount of autonomy in determining their internationalisation policies, but the Bologna Process is one area where state involvement was considered necessary: the implementation of the Bologna Process in the Netherlands, as a system wide development, was largely led by legislative change. Alterations to the Law on Higher Education (WHW) in 2002/03 made the introduction of the two-tier system and the use of ECTS compulsory. The 2005-07 national report reports 86% of students enrolled in the Bachelor degree, 5% in Master's programmes, and 11% in one-tier master programmes which were either being faded out or are related to medicine (outside the Bologna remit at that time) (Leegwater 2006). At the time of interview, use of the Diploma Supplement was desired, but not compulsory (Leegwater 2006), but it is now issued to all students free of charge. The Dutch government has also made the transferability of grants and loans possible between Dutch Universities and other Bologna signatory countries.

The changes were overseen by a coordinating group made up of governmental, university, business and social partners, including representatives of the Ministry for Education, Culture and Science, the rectors' conferences, the private institutions organisation, student organisations, the NVAO, employer organisations and employee organisations. Changes were also supported by Bologna Promoters consisting of members of the Bologna Follow-up Group, university staff from various disciplines, a Nuffic member and 2 students (Leegwater 2006).

As has already been mentioned, a second facilitating factor was that a number of steps had already been taken in areas mentioned in the Bologna Declaration. The two-cycle degree structure and quality assurance in higher education were being discussed before the Declaration was signed, and were implemented swiftly – by 2002/03 (when the legal requirements were put in place) 82% of all programmes had started to introduce the Bachelor /Master system (Leegwater 2005). The Bologna Process in the Netherlands was implemented in a context of reform and change in the university, with which, to a certain extent, it was continuous. This had two possible implications – firstly the misfit of the Bologna reform with the pre-Bologna system was reduced, and secondly the openness of actors to reform was increased.

5.1.3 Switzerland

Organisation and funding

Switzerland has ten universities[1], and two federal institutes of technology, making it one of the countries with the highest university densities. Five of the universities and one of the institutes of technology are located in the German speaking part, four further universities (one of which is bilingual French and German) and the other institute of technology are in the French speaking part, and one university is located in the Italian part. The governance of higher education in Switzerland is a complex balance between central and federal authority. Only the two federal institutes of technology and courses in particular subjects, such as medicine, are coordinated at the federal level. Across the universities, the Confederation helps support the costs of higher education, but most of the money comes from the canton (figure 5.3).

<figure 5.3>

This arrangement in funding is echoed in legislation – the universities are subject to cantonal legislation with only framework law existing at the national level. At the level of the confederation, universities are under the remit of the State Secretariat for Education and Research (SER), part of the Department of Home Affairs.

State and higher education

For Swiss universities, while the cantonal level has been of the greatest importance in shaping development, recent changes felt in university systems across Europe have led to an increased role for the federal level. The development of the tension between these two layers of the state can be considered in relation to the three models for analysis outlined by Perellon and Leresche (1999) and a fourth recently developing model facilitated by the Bologna reform. In the first 'simple model', from the end of the nineteenth century to the Second World War, a very strong relationship between the university and the canton could be observed. Most students were local, and the university was financed directly by the canton, in other words there was a close, localised, link between the financers, decision-makers and users of the university. The second 'open model', observed in the 1960s and 1970s, was marked by an increasing openness to the national and international environment. The 1968

[1] Universities defined as university level institutions of higher education (swissuniversity.ch)

Act on Financial Assistance to Cantonal Universities, increasing assistance from the federal level, and the establishment of the Swiss Science Council (CSS) and the Swiss University Conference (SHK, later to become SUK) as actors in higher education policy, saw an increased separation of users, financers and decision-makers. However, there remained a lack of coordination across the system, and therefore a lack of coherent system-wide policy. The final model presented by Perellon and Leresche is the 'complex model'. The changes which took place across Europe from the 1980s (including, increasing numbers of students, increasing financial pressure, European integration and globalisation, and the gap between the academic achievements of students and the expectations of employers) left the three circles of users, financers, and decision makers out of balance. In an attempt to deal with these pressures the relationship between the cantonal and federal level was strengthened. However, the complexity of this model arose from the unclear definition of roles and responsibilities within this relationship. While at the federal level actors wanted to increase the national coordination of university policy and development, the constraints at the cantonal level remained. The fourth model, under development since 2005, is the *Hochschullandschaft Schweiz*, a unified Swiss higher education system (landscape) based on increased transparency and efficiency and a more clear definition of roles at the federal and cantonal level put together by the *Projektgruppe Bund-Kantone Hochschullandschaft 2008* (2004). The relevance of the Bologna Process to this model will be examined in more detail below, but here two more complicating issues should be addressed. Not only has the Swiss system been marked by complex systems of governance, but Universities have experienced a great deal of autonomy in many areas which they are unwilling to give up, although this autonomy has varied from canton to canton. In addition to this the cultural differences across Switzerland must be considered: Universities in the French part of Switzerland can be considered to have more autonomy (Poglia et al. 1992).

In summary, the problems which have been felt across Europe are, in Switzerland, mediated through a complex, and divided, system of authority and autonomy, in which unifying national policies and shared solutions to common problems are potentially more difficult to implement.

Swiss universities have long been very open internationally. They have tended to create strong links independently with bordering countries, defined by common

languages, as can be seen by then relatively high percentage of Swiss students studying in Germany (table 5.2). Indeed, the Universities in the different language areas are often more strongly linked to universities in the neighbouring countries than to other universities within Switzerland (Streckeisen et al. 2002). Increasing the number of international students was a priority of the University Funding Law (*Universitätsforderungsgesetz*) outlined in 1999 (Schweizerischen Bundesrat 1999), which has been achieved by individual universities (Schenker-Wicki and Hürlimann 2006). Figures 5.1 and 5.2 indicate the importance of EU students in this number. Of the three countries under study, Switzerland also has the highest number of students studying abroad (see table 5.2). Not only is student mobility important in Switzerland, in a study of highly cited researchers in Europe, it was found that 90% of those based in Switzerland had some experience in another country, compared to, for example, 45% in the United Kingdom (Bekhradnia and Sastry 2005; MacLeod 2005).

Many policies for internationalisation have been located at the national level, but in a system where the autonomy and power of the individual are high, the high number of foreign professors led to increased receptiveness and strong involvement in international networks, although where these movements are along language divides, this may of course lead to large internal differences (Weber 1999).

Instruments

Some control has been exerted over cantonal universities from the federal level with the use of financial incentives but, similar to the other countries studied, there has been a shift since the late 1990s towards increased autonomy of universities accompanied by performance-oriented funding from the confederation, as well as at the cantonal level (Weber 1999; Schenker-Wicki and Hürliman 2006). The Bologna Directives are legally binding – for the federal universities from 2002, and the cantonal universities from 2003 – which marked a shift in the organisation of Swiss higher education, as is explained below.

National response to the Bologna Process

It could be expected that the complex system outlined above would pose difficulties for the coordination of a national policy relating to the Bologna Process. Initially the response to the Bologna Process left much decision making up to the universities. In a statement released in 2000 by the Director of the Federal Office for Education and Science, it was stated that the implementation of the process was the responsibility of

the university, as long as it remained in compliance with cantonal and federal laws (Schuwey 2000). Decisions related to the Bologna Process were not made immediately: 'on the political level nothing has been decided yet. On the legal and organisational levels it is more or less up to each university to decide if a part of the institution only (e.g. a department or a faculty) or the university as a whole can and should introduce the new system' (Shuwey 2000). The approach was anything but system-wide. Difficulties did not only relate to the problem of initiating comprehensive system change, but also to the nature of that change. Many of the areas mentioned in the Bologna Process directly affected issues of autonomy and the academic values of the university. While the aforementioned statement pointed to the willingness of university Rectors to move forward with the process, there were clear misgivings concerning the balance between the academic and the vocational in a Bachelor's degree, and the limited number of areas in which a two-tier system could be integrated.

Despite the initially slow start, national level coordination and implementation of reforms have taken place in Switzerland led by the Swiss University Conference (SUK), a joint organisation of university cantons and the Confederation which replaced the previous University Conference (SHK) in 2001. The SUK is composed of the ministers of education from university cantons, two representative ministers of education from non-university cantons, state secretary of the Swiss Science Agency and the president of the Federal Technical Institutes' board, and has the power to issue directives on normal length of study, and the recognition and awarding of qualifications. The president and vice-president are voted from the members. Under a federal president a cantonal actor must serve as vice-president and vice versa. Funding of the organisation is divided 50/50 cantonal/federal. The universities also have a say in the way in which the Process is addressed: the SUK is informed by the Rectors' Conference of the Swiss Universities (CRUS), which is also directly responsible for its implementation.

The basic points for discussion were set out in the Discussion Paper for the Implementation of the Bologna Declaration, put forward by the Swiss Rector's Conference (CRUS 2000). These guidelines put an emphasis on three main points. First, avoiding a phasing in of the system – the new and the old should not be offered simultaneously. Second, the necessity of avoiding increasing the length of the

average degree through the introduction of the Master's level. The recommendations concerning the length of a degree should therefore be changed from stating a *minimum* length to a *correct* length of studies. And third, the use of the Master's degree (comparable to the Lizenziat) as the standard qualification. Entry at the Master's level was more flexible than stated in the Bologna Declaration, direct entry to a Master's degree should be possible, without acquiring a Bachelor Grade, but this was a matter for the university to decide. Despite this it was also stated that the Bachelor degree should not be just a step on the way to a Master's, but completion of a basic scientific education in the relevant discipline. The SUK, working together with CRUS, released guidelines on the implementation of the Bologna Process in 2003 to come into effect on January 1st 2004, requiring that the new structures be in place in all Swiss Universities by 2010, with detailed plans in place by 2005. These were built on by CRUS in 2008 and updated in 2010 (CRUS 2010).

The implementation of the Bologna Process in Switzerland was not only related to the international success and competitiveness of higher education, but also to the success of more widespread national reform to improve internal coordination and comparability, mentioned above. The aim was to strengthen relations between the cantonal and federal level through a clear determination of the roles of the federal and cantonal governments, while maintaining the highly valued autonomy of the universities, as was outlined in the report by the *Projektgruppe Bund-Kantone Hochschullandschaft 2008* (2004). Awareness of international competition was important in getting support for the reform (Fischer et al. 2010) and changes at the European level presented a policy window for an otherwise difficult system-wide change (Bieber 2010). In addition, the Bologna reform acted as a model for this new form of coordination: "The coherent implementation of the Bologna model in the Universities has shown that with this leadership structure, even the most complex reforms can be carried out both quickly and efficiently" (Projektgruppe Bund-Kantone Hochschullandschaft 2008, 2004: 26 (my translation))

Indeed as an overall reform of a highly differentiated system, the process has been successful. In 2004/05 29% of students were enrolled in Bachelor or Master degrees, this increased to 48% in 2005/06 and 85% in 2008/09, with the number expected to increase to 95% of students by 2010/11 (Studinger 2005; Studinger 2008). The use of credit points in these courses is mandatory.

The Centre of Accreditation and Quality Assurance of Swiss Universities oversees quality assurance systems of universities and is ENQA compliant. Funding for cantonal universities is partly linked to quality audits. Swiss Guidelines for internal quality assurance, issued by SUK, came into effect in 2007 and are binding in federal law.

Achieving these system-wide goals has had implications beyond a high level of compliance with the Bologna reform. The implementation of the Bologna Process is seen as a mark of the way in which the complexities of a federal system of higher education with highly autonomous Universities operating from different cultural bases can be overcome, and forms an integral part of the funding strategies for the cantonal and federal universities (State Secretariat for Education and Research and Federal Office for Education and Technology 2007)

5.1.4 Summary

States have taken a varying amount of responsibility for the implementation of the Bologna reform. The differences in state policy can be interpreted in the context of the path of previous policy. British universities have a history of doing well internationally, and therefore the perceived need for change in this area was limited. The Bologna Process was seen as, at most, requiring an adjustment in the field of higher education, and to a large extent a maintenance of behaviour. The Netherlands on the other hand had been actively working at internationalisation. In Switzerland the Bologna Process was a critical break from the previous way of doing things, but could be used to achieve wider aims, including maintaining or increasing the attractiveness of Swiss universities to international students, reducing the time taken to complete a first degree, and crucially unifying the Swiss Cantonal universities into a Swiss system of higher education.

5.2 Sub-National decision making

In this section I will investigate the changes that have taken place within each national system, and the room for manoeuvre remaining within the autonomous universities and loosely coupled departments discussed in chapter 3. Following Pierson's emphasis on *when* an event occurs, I begin with a comparison of the timing of the reform to give an overview of how the process was rolled out (inter)nationally, and then move on to consider the levels on which decisions were made in each of the universities.

5.2.1 The timing of implementation

In each of the universities, and often in the departments, the timing of implementation differed. The timing of implementation is summarised in table 5.3 below. The start date refers to when work was begun in the university. As the process of reform is ongoing, no end date can be identified yet, but the date of the first students starting Bologna-compatible courses are given, along with the date by which all courses should be Bologna compatible. As the academic year varies between the countries calendar years are used in all cases.

Reform began earliest in the Netherlands where government directions were strongest. In the United Kingdom the process was worked on seriously in the specialised university from 2004, whereas thinking about the process turned into action in 2009 in the non-specialised university. In Switzerland work on the reform began at different times in the different universities, and in the case of the Swiss German non-specialised universities work began in the faculties (in the Faculty of Applied Science in Spring 2000, and the Faculty of Law in 2001) before ideas were fixed at the university level.

<table 5.3>

These dates indicate a clear national pattern of roll out, the Netherlands was first, followed by Switzerland and finally the United Kingdom. In Switzerland the timing varied greatly between university departments. This has implications for decision making at lower levels within the universities.

5.2.2 Decision making in the universities

In almost all departments studied the decision to reform was top down, but with major elements of decision making being delegated to the faculties and departments. The main differences were nationally based: The English universities proved the exception to top-down but essentially inclusive reform. In the non-specialised university the process hadn't really started at the time of interview. In the specialised university, a decision to make only nominal changes was made at university level with, at the time, little room left for departmental adjustment. In the Dutch universities the early national legislation led to a relatively smooth top-down process. In the Swiss universities the delay in national-level guidelines left a window of opportunity for first movers, who could shape the process to their advantage (Héritier et al 1996).

Information is taken from interviews, supplemented by relevant documents and literature where appropriate.

Case 1: England non-specialised university

At the time of research very little had happened in this university relating to the Bologna Process. The international strategy being coordinated by the Director of International Strategy and the International Board, chaired by the Vice-Principal, was becoming more and more in line with developments at the European level, but was not directly linked to Bologna. There was however a strong potential for bottom-up pressure for change as awareness of the Bologna Process increased within the schools. Changes, if and when they do occur, are likely to be university wide – consistency across the university is highly valued.

Case 2: England specialised university

Within the specialised university, major decisions are made at the Senate, at which the chairs of all the major education committees, rector and pro-rectors, faculty principles, college deans, elected representatives of academic staff, officers from the Student Union and the heads of the Academic Support Services are present. This was the same for the Bologna Process, although at the time of interview the decisions had been limited to the application of ECTS.

Initially when the papers concerning the Bologna Process were presented there was a lot of discussion, but with no real outcome. Although recommendations were put forward by the European committee, no change resulted. The university level respondent cited resistance to change within the departments as the veto point. This changed when the Senate established a Bologna Taskforce in 2004, which included representatives from all faculties. This group was charged with organising and coordinating a review of all courses focussing on the hours of work (direct contact and private study) as a basis for the implementation of ECTS. A paper was then submitted to the Senate, and the decision was taken that all departments should be compliant by 2009. While the process was consultative, decision-making was hierarchical.

Case 3: Netherlands non-specialised university

Following the national level legislation on the use of ECTS, and the introduction of the 3 year Bachelor, 2 year Master (3+2) system, the role of individual universities in

the Netherlands was quite modest. In the non-specialised university studied the task at the university level was basically to keep people informed. Change was driven at the faculty level, with the consent of the university board. The Faculty of Humanities was the first in the university to implement the reform. The board looked at documents prepared by the faculty departments for academic affairs, and made decisions taking advice from university committees such as the Committee for Education and Research. The Deans of the Faculties were also consulted bilaterally or in plenary, and students and employees of the university had a say in structural changes. A main point of the discussion was whether to change the academic calendar. The process took only 18 months, and met very little resistance from staff but a little dissatisfaction from students.

Course content was decided upon in the departments within the constraints set at higher levels. This was easier in some departments than others. The director of the programmes in the Physics department set up the new structures and then discussed them with professors and teachers. It was reported that the top-down nature of the reform meant that it was widely accepted without real resistance. Although reform was faster in the Faculty of Humanities than other areas of the university, reform in the History department was not straightforward, the main area of resistance being the switch from a four year period of study to a three year Bachelor and one year Master. Prior to the four year degree, a three plus two system had been in place. Many would have preferred to have returned to that structure than adopt a similar but shorter system. In comparison however, this reform was felt to have been easier than the earlier one. There was a lot of discussion at departmental level concerning implementation. The head of the teaching institutes made decisions across a number of departments based on a general consensus. One exception to this was the decision to broaden the content of the degree at the Bachelor level: departments that weren't in favour were over-ridden. Final decisions were made at the faculty level by the Dean, with the advice of departmental committees made up of four students and four teachers.

In the Law department the three year Bachelor and one year Master degree replaced a 1+3 system. The Dean decided the focus for change, for example the promotion of the research Master's as a means of distinguishing a university law education from that in the *Hogescholen,* and the new structures were developed, with some difficulty,

by a committee of five young professors. The process was inclusive, with students and faculty members being consulted on the changes that should be made.

Case 4: Netherlands specialised university

In the specialised university the process of implementation began shortly after the Minister for education signed the Bologna Declaration. The university was the first in the Netherlands to fully introduce the changes. At the university level the office responsible for university corporate strategy began to coordinate the process and address national level issues. Following discussion with the board of Deans, the eight faculties in the university began with implementation, however many decisions were made at the central level, for example concerning the Diploma Supplement or the decision to offer MSc programmes in English (a process which had begun in 1997).

In a sense the university was many steps ahead of the process. In the three or four years leading up to the signing of the Bologna Declaration the central organisation of the university warned the faculties of the coming changes, and the need to shift to a Bachelor/Master system. In the departments the implementation process was fairly easy. Ideas for the courses were developed through discussions between staff and students in educational committees, and also by the educational director. These were then approved by the Dean of the faculty based on economic considerations as well as interest and demand.

Case 5: French Swiss non-specialised university

In the French-speaking university the aim of the CRUS that the reform should be wide reaching was taken seriously at the university level. Along with promoting the major elements of the reform – namely the two-tier degree and the use of credit points – the Rector's office worked together with faculty development centre *FormEv* to encourage the faculties to "reinforce development activities and get the academic community working together on issues such as improving the teaching and learning conditions or facilitating access to university studies" (Colet and Durand 2004). An academic commission (CoBolo), chaired by the Vice-Rector of teaching, was established in July 2002 including representatives from each faculty and institute, two students, and members of the administration. The commission worked in parallel to the development of recommendations from CRUS. The aim of this was to create a coherent system across the university. Proposals put forward by the committee were then decided upon by the Rectorate. The result of this work was twofold: On the one

hand, the publication of official guidelines for the introduction of the Bachelor and Master degrees in the faculties and departments was completed in June 2003 – six months ahead of the national guidelines. The basic rules set by the university determined degree titles, access to the Master's programme, admission, the resumption of studies, the awarding and uses of Credits, the inclusion of a dissertation and the provision of compulsory and optional courses (University 5, documents 1and 2). On the other hand through this process the wider implications of the reform were realised; namely a change of values, laws and rules in each faculty, and the financial cost of implementation (Interview 505).

Within the university level guidelines the faculties, schools and departments had a large amount of freedom concerning the details of new programmes, credit point allocations and course content, and the transition between the old and new systems (University 5 document 3). Once the details had been decided at the departmental and faculty level the programmes they then had to go through a formal process of approval. The changes that took place in the university were very faculty dependent: The representatives of one faculty described a lot of the change as being bottom-up, within the limits set by the faculty, but where a conflict occurred departmental freedom was always respected (Interviews 501, 502). Whereas in some areas the new system was relatively similar to the old, in others it has required a complete overhaul. Physics was rather straightforward, and in the Arts faculty, where most change was required, the study committee, which normally meets if a structural change is proposed, undertook much of the work. A lot of discussion also took place in the *Collège de Professeurs* and the Dean's Advisory Council.

While most of those interviewed described the decision to make changes as being hierarchical but the process of making those changes as being more inclusive, the representative of the Science faculty saw the whole process as being more hierarchical: “we weren’t happy, but as we were told, we did it” (Interview 504). This mixture of reactions is reflected in Colet and Durand’s review of the process of reform from the perspective of the FormEv: “participation and commitment to the principles [of the Bologna reform] are not unanimous – on the contrary, quite divided. Some departments consider they have no choice and that the Bologna reform is inevitable, albeit inappropriate” (Colet and Durand 2004).

Case 6: French-speaking Switzerland specialised university

The Bologna reform was driven by the directors of the university, but the university guidelines, released on 14. June 2004 (University 6, document 1) left a lot of space for departmental autonomy. The regulations determined similar base changes as in the German-speaking specialised university: Admission to the Bachelor degree would be on the same principles as admission to the university before the reform; credits would be awarded in all disciplines based on the ECTS system and in the numbers recommended in the Bologna Declaration; the maximum length of study (6 years) was also set by the university. Here however the Bachelor degree also consisted of two parts: “le cycle propédeutique” and “le cycle bachelor”. The first cycle (60 credits) was intended to last one year and must be completed within two years and was a precondition for access to the Bachelor degree. The Bachelor cycle was intended to last two years, was worth 120 credits and was necessary for entrance to a Master's programme. This programme was in two stages – a 60 credit cycle and 30 credit project which could be started upon completion of the Master's cycle.

Within these guidelines the details of the degree were then left to the different sections of the university to decide in working groups and the teaching committees. Course content was revised within the sections by a working group made up of the head of section, a representative professor, and a student representative. The group then met with the section council, consisting of all teachers and a student representative, to create a final version, although at this level there was little discussion as most of the work had already been done and most of the changes taking place as a result of the Bologna Process were minor. The heads of the sections met to coordinate their decisions prior to a decision at the top level. A list of courses was then put to the Directors for approval. The position of Vice-President for Academic Affairs was created at the university, under whose remit changes in teaching and research falls, and a dean for Bachelor and Master's programmes was appointed to support the process.

Across the Mechanical Engineering section there were no major problems or disagreements, with the majority agreeing with, or at least accepting the changes without issue. In the Physics section the process was viewed more critically, as being imposed top-down, and unwelcome.

Case 7: Swiss German non-specialised university

A specialist department for reform, the *Fachstelle Studiumreform* was established in 2002 to coordinate and support the implementation of the Bologna reform in the university. The guidelines for reform at the university level were issued in March 2004 (University 7 document 1). While they basically reinforced the national level guidelines, the main difference was that these were binding for the faculties, and the time period was set for full implementation. While structural changes should be in place by the 2010 deadline, changes in content and teaching methods were seen as an ongoing issue. Coordination across the university was described as a 'massive problem' due to the high level of autonomy at each level, particularly in an environment in which less than half of those involved in the reform were thought to have agreed with the changes. One respondent told me: 'many people neither agree nor disagree, they just do it. But others see it as a danger' (interview 701).

Within the faculties the process of implementation was affected by the timing of adoption. The Faculty of Science benefitted from having a degree structure that was relatively close to the Bologna model, so was the first to implement the changes starting in 2000 and had completed the process by summer semester 2004 – at an earlier stage than all other faculties in the university, and before the university guidelines. They therefore had a great deal of freedom in terms of how they wanted to implement the changes and adapt their courses. Groups were set up with the departments to look at existing curricula and international trends, and then report back to a faculty committee, which created guidelines to be approved by university leadership. As the faculty as a whole was a leader in the process, it was less limited by university level guidelines. In instances where the faculty level decisions were different to those made at the university level, the faculty was able to shape university level recommendations. Within the subject groups, the Bologna Process was seen as a chance to positively change and improve the institute. Care was taken to 'do it well' through consultation with staff, students and assistants, including a weekend retreat. Just as implementation in the faculty preceded that at university level, implementation in the Institute for Theoretical Physics preceded faculty changes. New jobs were created to coordinate the implementation process.

In the other two faculties (Faculty of Arts and Law faculty) decisions were made later, within the university guidelines. These guidelines set out the main features of the

degree structure (three cycles) and the awarding of credit points (180 Bachelor, 90-120 Master), as well as the use of the diploma supplement, and the basic admission criteria (University 7 document 1). However, the guidelines left a lot of room for the faculties to shape the degree form and content. The balance of major and minor subjects, the content of degrees, the assessment structure, the use of integrated degrees, the adaption of the doctoral degree and entry to this degree, the bridge between the old degree structure and the new, the promotion of soft skills, the entry to specialised Master's degrees, and the knowledge and abilities to be attained at this level could all be determined by the faculties. In addition the extent of the involvement of the *Fachstelle Studiumreform* was also at the discretion of the faculty.

The Faculty of Arts took recommendations from working groups which were then translated into general structures within which the institutes and seminars should implement the process. Guidelines were produced focussing on degree titles; the major and minor subjects available within the faculty, and the credit points awarded for each; admission to Master's programmes for students from other universities/non-consecutive Bachelor programmes; the required time investment for the Master level thesis; and the subjects that could be studied in second or additional degrees (University 7 document 2). At faculty level the major difficulty was to incorporate elements of the previous system – particularly the opportunity for students to study three subjects – into the new one. Within the Historical Seminar, the *Seminarkonferenz*, (consisting of professors, lecturers, senior assistants, assistants, PhD students, administrative staff and students) made the decisions concerning implementation, based on the information gained from consultation with others in the seminar, and information exchanges with other institutes and seminars.

In the Law faculty the process of implementation was also consultative. Up until 2004, the Bologna Commission, comprising of professors, lecturers, assistants and students, made the decisions concerning the Bologna reform. They first produced the concept for the Bachelor degree which was then looked at by the university commission. The regulations for study were produced within the faculty (University 7 document 3). A major disadvantage of the process was the increase in administration across the department, for professors, assistants and committees alike. Implementing changes took up a lot of time, but the overall impression was that, through a lot of hard work, all problems were dealt with.

Case 8: Swiss German specialised university

As planning started early at this university it was a leading decision-maker in Switzerland. Initial discussions concerning the implementation of the Bologna reform took place through different working groups, both nationally (CRUS) and internationally.

Within the university the *Schulleitung* was formally responsible for decision-making, but the Rector also played an important role in the determination of what changes should be made and how. The overall aim at the university level was that there should be real change at the university: not only formal but in content and methods (University 8 document 1). Discussions at this level led to the production of guidelines: a large amount of decision making power remained at the level of the department. The rector also set up support services, such as the centre for teaching and learning, and dealt with the legal issues surrounding the implementation. Quality assurance was being reassessed at the university level at the time of research, steps included a move to external accreditation through the Swiss Centre of Accreditation and Quality Assurance in Higher Education (OAQ).

Although the initial aim was to follow the 12 theses of the CRUS, concerns were raised in the university particularly over the admission to the Master's degree – if all Swiss students holding a Bachelor's degree were permitted access this would disadvantage international students (University 8 document 2), although this has not changed in the most recent regulations (University 8 document 3). The basic elements decided at the university level and put forward by the Dean's office in 2001 were the implementation of the two-tier system and the credit point system. The Bachelor degree should give the students a good base in terms of knowledge and scientific approach. It should consist of roughly two-thirds compulsory courses and one-third subject-specific options. The main purpose of this level should be to prepare the student for a successful Master's degree. Entry to this level would remain the same as for the pre-Bologna degree. As in the non-specialised universities the Master's level was presented as the main part of studies in which students are brought into contact with research and involved in research projects and should be the "normal" finishing point for students. However, greater emphasis was given university-wide to the international element: Master's programmes should be internationally attractive, which required a large proportion of material to be delivered

in English, indeed it was decided that it should be possible to complete various Master's programmes completely in English. Master's programmes could be interdisciplinary or concentrated in one subject, but must allow for students who hadn't specialised in precisely that subject at the Bachelor level. The Schulleitung also enforced the use of the ECTS credit system for all courses, and set the timescale for implementation (by winter semester 2005/06). It was stated that a maximum duration for studies at the Bachelor and Master level must be set, but this could be decided by the faculties/departments. The university maintained the exam at the end of the first year of the Bachelor degree (*Vordiplom*) as an entrance exam, but abolished the 2nd *Vordiplom* and introduced the Diploma Supplement. The number of contact hours had to be reviewed to take the increased self-study time into consideration. Entry rules at the Master's level were left to be defined in the faculties/departments. Improvements in the content of courses were also left to the departments to decide, but the content had to be justified in a "Qualifikationsprofil" outlining the abilities of the student.

Exams were to be modular, and take place within time brackets set by the university. At the Master's level at least one exam had to be based on a broad overview of the subject and could have the form of a Master's seminar. Credits could be awarded based on successful completion of exams, or for completion of another type of work, for example lab work. The credits for courses could be set by the departments but an individual course had between 3 and 8 credits. Where courses were taken by students from more than one discipline the credits were set by the provider with the agreement of the user department.

In both departments studied, respondents reported a sense of dissatisfaction with the initial decision. Implementation was however inclusive, but was carried out with differing levels of enthusiasm: "there was an initial strong sense of loss regarding the diploma as a trademark, but there is nothing you can do so we moved forward quickly" (Interview 803; Mechanical engineering), "all decisions were made at the department meeting so we had an input… physics was one of the last. Others embraced it earlier. We haven't at all" (Interview 804; Physics).

5.2.3 Internal and external consultation

As the Bologna reform is taking place across Europe, it could be expected that the process would be eased by consultation with other universities going through the

same changes. If there are greater levels of consultation with universities elsewhere this may indicate lessening importance of the national system and a strong international referential community (Neave 2003). However, as table 5.4 shows, in the departments studied consultation outside the national system is limited and when it occurs, it happens at the university level.

< table 5.4 >

Lack of consultation internationally in the departments studied in the Netherlands is an indicator of the national nature of the process. Once the process got underway the new degree structures became a national issue. International consultation at the university level in the non-specialised university was focussed on ensuring that the academic calendar was in line with those of the major exchange partners. The task of the senior policy advisor for international relations was to ensure that awareness of competition with other universities abroad and international developments, as well as the importance of student exchange, remained an issue within faculties and departments. In the specialised university however members of the student council visited an Anglo-Saxon university to see how the structures worked there. The respondent at the university level reported close cooperation between the five international universities making up the IDEA league, in the development of the Diploma Supplement for example, that weren't reported at other universities.

The French-Swiss universities looked to universities in other countries to see what changes were being made in an attempt to improve the chances of having compatible degrees in neighbouring countries and more further afield. The university level respondent in the non-specialised university described this process as being limited by differences in the stage and speed of reform elsewhere. Even in the naming of degrees compatibility could not be achieved, the French term "*Baccalaureat"* indicating a very different level of education to the finally accepted English term "Bachelor". In the Swiss-German non-specialised university at the faculty both formal and informal links were made with other faculties both within the university and across Switzerland, but the benefits of information exchanges within the university were limited by the large differences between the faculties.

At a national level, all of the Swiss universities looked to other national universities under the coordination of the CRUS. Between the two specialised universities

cooperation was particularly strong, partly due to the existence of shared courses. The British universities had also been involved in discussions with other British universities through the Russel group (an association of 20 leading research universities in the United Kingdom) or the Bologna Promoters.

Within the Swiss-German universities actors in each department consulted with other national universities, and internally with other departments, often informally. Decisions concerning the implementation at the university level in the non-specialised university were made in cooperation with other Swiss, particularly Swiss German, universities through the CRUS. As the Institute for Theoretical Physics was a first mover there was no consultation with other institutes inside the university at the time of implementation.

5.3 Summary table

The national approach to the Bologna Process and the room for manoeuvre at each level in the university is summarised in table 5.5 below.

<table 5.5>

5.4 Conclusion

In the time period in question the Bologna Process exerted different pressures in each of the national systems studied. In the Netherlands adjustment was needed, in England the process was interpreted as requiring that the current behaviour was maintained. In Switzerland the whole system needed to be changed to meet the requirements set out at Bologna and in the follow up meetings. Adaptational pressure was therefore high.

The national policies had major implications for decision-making within the universities in all three countries, but the effect was different: either driving, facilitating, or limiting change. In the Netherlands the reform was highly state driven. The Bologna reform fitted with the path towards internationalisation and clear legislative changes were made early on. This led to little room for manoeuvre within the universities. The process was more straightforward in the specialised than the non-specialised university, and there was also international consultation. In the non-specialised university the faculties had a stronger role in shaping the reform.

The role of the state in England was restrictive, as in the Netherlands, but here the government response acted as a force for stability, limiting the potential for change in the case that it was desired at university level, through the lack of resource provision (Neave 1995; Börzel and Risse 2000). Although in terms of government legislation the universities had more autonomy to choose their response, they could not take advantage of this to make real changes without the necessary financial support. However the lack of change within the non-specialised university, at least, was a result of the lack of will, not government restrictions.

In the Swiss system the timing of the process was important. Delayed state intervention meant that the university level regulations could be shaped from the bottom up as some faculties/departments began planning before the official guidelines from national or university level were in place. The strong culture of university autonomy also had to be respected with relatively limited guidelines being produced at national level and adjusted at each level down to the school or department. The independence of departments was also reflected in the higher level of consultation between departments. And the high level of differentiation across the language regions can be seen in the way the process has been received: The implementation in the Swiss Romande is more flexible than in the German-speaking region.

Both the organisation and structures of the national systems and the role of the state in pushing through reform, or not, have implications for the level of compliance. This will be discussed in the next chapter.

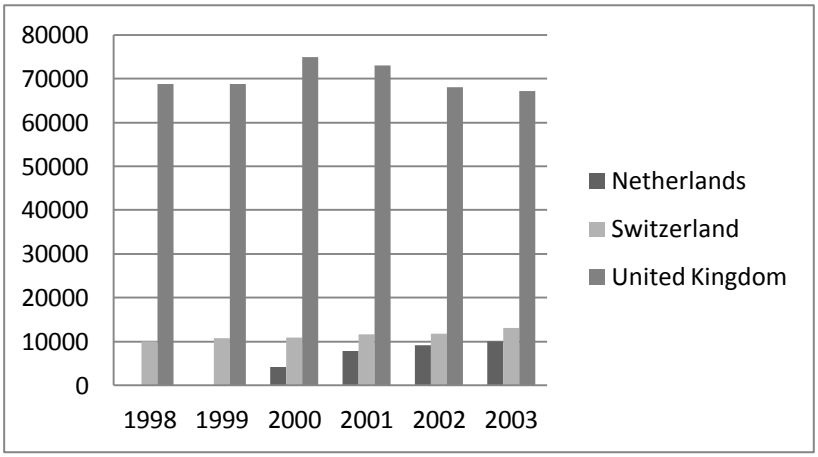
Tables and Figures

Table 5.1 International student* enrolment in full degree programmes in selected countries as a percentage of total enrolment

	1998	1999	2000	2001	2002	2003	2004	2005
Austria	12.07	12.43	12.70	12.79	13.79	14.69	15.39	15.39
Germany	8.87	9.39	10.05	10.58	11.23	11.93	12.42	12.77
Italy	1.21	1.27	1.37	1.51	1.47	1.82	1.95	2.15
Japan	1.18	1.92	1.97	2.07	2.39	2.74	3.06	2.84
Netherlands	0.00	2.95	2.92	3.37	3.72	3.98	3.96	5.66
Switzerland	15.12	15.42	15.92	16.15	16.07	16.63	16.78	16.97
United Kingdom	11.99	11.26	12.24	12.36	11.71	13.31	16.62	17.80

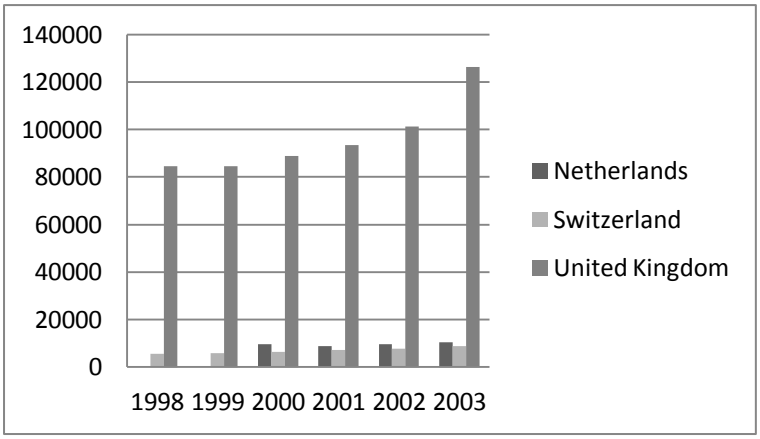
Source: OECD stats (www.oecd.org/education/database) [accessed June 2008]
*International students are students resident in the country of study i.e. studying a full degree. Includes only theoretically based programmes

Figure 5.1 EU students studying in the Netherlands, Switzerland and the United Kingdom, 1998-2003



Adapted from OECD statistics(www.oecd.org/education/database) [accessed March 2010]

Figure 5.2 Non-EU students studying in the Netherlands, Switzerland and the United Kingdom, 1998-2003



Adapted from OECD statistics (www.oecd.org/education/database) [accessed March 2010]

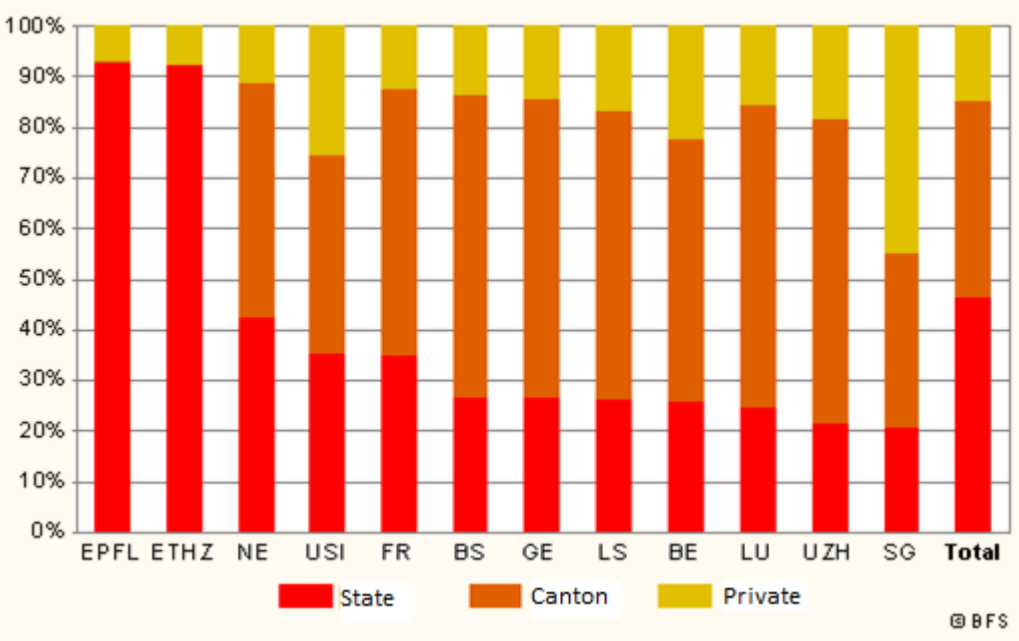
Table 5.2 Percentage of international students enrolled in tertiary education in selected countries, by country of origin (2000)

	Country of Origin		
Destination	**Switzerland**	**Netherlands**	**United Kingdom**
Australia	0.14	0.09	0.35
Austria	0.21	0.03	0.02
Belgium	0.08	0.67	0.02
Canada	0.20	0.04	0.09
France	0.77	0.15	0.25
Germany	1.54	0.52	0.21
Ireland	0.01	0.01	0.14
Japan	0.03	0.01	0.03
Netherlands	0.06	-	0.05
Spain	0.15	0.23	0.21
Switzerland	-	0.07	0.02
United Kingdom	1.12	0.64	-
USA	1.38	0.40	0.59
Totals	5.69	2.86	1.98

source: OECD statistics (www.oecd.org/education/database) [accessed March 2010]

Data shows non-citizen students from the country of origin enrolled in tertiary education courses. This data also includes students that did not travel solely for the purpose of education.

Figure 5.3 Financing of higher education in Switzerland by institution and source, 2006



source: http://www.bfs.admin.ch

Table 5.3 Timing of implementation in the chosen departments

University	**Start date**	**Date of first student starting course (by subject)**	**Date by which all courses to be Bologna Compatible**
UK G	2009	n/a	n/a
UK S	2004	2008	2009
NL G	Physics 2003 History 2001 Law 2003	Physics 2001 History 2002 Law 2003	2003 Last non-Bologna graduate 2007
NL S	Physics 2001 Mech Eng 1999	All 2002	2002
CHF G	Physics 2002 History 2004 Law 2003	Physics 2004 History 2006 Law 2006	Structures in place by 2006. Last non-Bologna graduate 2008
CHF S	2002	2004	2004 (name in use by Jan 2005[2])
CHG G	Physics 2000 History 2004 Law 2001	Physics 2004 History 2006 Law 2006	Winter semester 2006/07
CHG S	Physics 2002 Mech Eng 2000	Mech Eng 2001 Physics 2004	Autumn semester 2005[3]

[2] University 5 documents 1 and 2

[3] University 8 document 2

Table 5.4 External and internal consultation by department

		Consultation			
University	**Organisation**	**Inter-nationally**	**Nationally within national organisations**	**Nationally with other universities directly**	**Internally**
UK G	University Physics History Law			Yes Yes	
UK S	University Physics Mech Eng			Yes Yes	
NL G	University Physics History Law	Yes		Yes Yes (at faculty level)	Yes
NL S	University Physics Mech Eng	Yes	Yes		 Yes
CHF G	University Physics History Law	Yes	Yes		
CHF S	University Physics Mech Eng	Yes	Yes		 Yes
CHG G	University Physics History Law		Yes	 Yes Yes Yes	 Yes Yes Yes
CHG S	University Physics Mech Eng		Yes	 Yes Yes	 Yes Yes

Table 5.5 Summary of levels of decision making (at the time of interview)

Country	State supports stability or change	Decisions made at national level	University	Decisions made at university level	Decisions made at faculty level	Decisions made at departmental level
UK	Stability	None	G	None	None	None
			S	Introduction of ECTS	n/a	Application of ECTS
NL	Change	Use of ECTS and 2-tier system	G	Changing academic calendar Approval of changes	Driving change	Course content, allocation of credit points
			S	Use of DS and Master's degrees offered in English	Approval of suggestions from department	Course content, allocation of credit points
CHF	Change	Recommendations on degree title, structure, use of ECTS, and admission to Master degrees	G	Binding guidelines on two-tier degrees, ECTS and DS	Binding guidelines on two-tier degrees, ECTS and DS	Course content, allocation of credit points
			S	Regulations on introduction of Bachelor and Master, admission procedures and credit points. A two stage structure for Bachelor degrees, and a project at Master's level	n/a	Course content, allocation of credit points
CHG	Change	Recommendations on degree title, structure, use of ECTS, and admission to Master degrees	G	Binding guidelines on two tier degrees, modular courses. Use of modules and value of outside subjects, allowance for soft skills. Grading system, and access to Bachelor, Master and Doctoral degrees.	Use of main and outside subjects, transition between old and new degree courses	Course content, allocation of credit points
			S	Binding guidelines on	n/a	Content of degrees and

				two tier degrees, use of credit points, use of English at the Master's level, and the “Masterarbeit”, timing of exams and introduction of the DS and timing of implementation.		inclusion of outside subjects. Admission to Master's level

Chapter 6 Compliance in the National Systems

In this chapter the importance of the national level discussed in the previous chapter will be linked to the levels of compliance in the university departments. Firstly compliance scores will be presented for each department. The compliance scores will then be examined with reference to national systems before the importance of the university and departmental levels are explored in the final section. Where appropriate, an indication of the current (2012) situation will be given, although this is not included in the analysis.

6.1 Compliance scores

Based on interview and, where necessary, a review of course outlines, each department was given a score for compliance with the targets set out in the Bologna declaration and subsequent communiqués up to the time of research. Table 6.1 gives a snapshot of compliance at the time of research. As well as being analysed for national and departmental patterns here these figures are used as the dependent variable in the statistical analysis in Chapter 7.

<Table 6.1>

Although compliance was high in all departments studied, there are eleven main areas of difference in the way in which the Bologna Process has been implemented.

- Quality assurance
- The use of the diploma supplement
- The use of credit points
- The acceptance of the Bachelor as a graduating degree
- Entrance to the Master's degree
- The length of the Master's degree
- The promotion of mobility
- Inter-institutional cooperation
- Integrated programmes of study
- The establishing of joint degree programmes
- Change at the doctoral level

Of these eleven differences five show clear national patterns: Quality assurance, the use of the diploma supplement, and the use of credit points, the acceptance of the Bachelor as a graduating degree, and entrance to the Master's degree. These are

addressed in section 6.2. The other six will be discussed in reference to specific departments in section 6.3.

6.2 Explaining differences along national lines

When the compliance scores are ordered from most to least compliant some clear national differences can be seen (Table 6.2). The statistical significance of these differences will be discussed in chapter 7. Looking at the national patterns, the Swiss and Dutch universities had a higher level of compliance than the English universities.

<Table 6.2>

In the Swiss case there was a higher level of compatibility on average across the four departments examined in the federal institutes than in the six departments in the cantonal universities. When the departments in the two regions are compared like with like (CHF S Physics compared to CHG S Physics, and so on) in all but one department – the Physics department in the specialised university – compliance was higher in the German-speaking Canton. In the Dutch system compliance was high across all departments and was marginally higher in the general university. In England compliance was higher in the non-specialised university.

The national level differences can be explained in three ways: by differences in the amount of change needed, by differing national policies, and by delays in the wider acceptance of change.

6.2.1 Differences resulting from the (perceived) amount of change needed

Compliance in the national systems appears to confirm the importance of the type of change and the amount of change needed outlined in chapter 2. The Bologna Process was interpreted at the national level in England as being based on the current system and was therefore a process which required, in Gornitzka's (1999) framework, that behaviour was maintained. This fits with Cerych and Sabatier's (1986: 245) findings following a review of higher education reform in Germany: "we might say that although an extensive depth of change makes implementation more difficult, a certain amount of it is necessary to encourage action". The overall assumption of fit limited the perception that action was necessary at both national level and within the universities. In accordance with Börzel and Riess (2000), compliance in this case was a process of absorption, or accommodation in the

university departments. The level of compliance was lower than elsewhere, and omissions remain.

Implementation in the Netherlands was characterised by strong state guidance and a history of reform. Not only are the newer structures more easily changeable, according to the punctuated equilibrium model, but they are also already in line with the Bologna Process. A process of adjustment was required, but as a result of the level of flexibility in the system and the continuation with past policy choices, compliance was high. As the Dutch system is the most strongly state driven, with limited room for manoeuvre, this would be expected to hold true across the system, and indeed the Dutch universities have the least variation in compliance, suggesting a more uniform response.

In Switzerland, in contrast, we see a higher level of adaptational pressure. The Bologna reform required major changes to the higher education system. This implies high levels of compliance, but as the changes involved a reworking of the core goals of education, particularly in the early years of the degree, they were accompanied by high levels of resistance. The cultural division in the Swiss system can be seen in the difference in scores between the two cantons studied. This and the importance of the differences between specialised and non-specialised universities will be explored in more detail in the following chapter.

6.2.2 National policy related differences

There are four areas in which difference in compliance is a direct result of national policies: Quality assurance, the use of the diploma supplement, the use of credit points, and entrance to the Master's degree.

- **Quality Assurance**

All of the national quality assurance agencies of the countries studied are members of ENQA, but there are notable differences in quality assurance between the three countries. In the United Kingdom the appropriate structures have been in place for some time. In the Netherlands changes at the national level have resulted in uniform changes in the universities. In Switzerland a delay at the national level (a national agency being set up in 2007) has resulted in differences between the structures in place in the universities and their departments.

In the United Kingdom quality assurance in all universities is advanced and strongly regulated by the QAA. In the specialised university the view was similar to that held at the national level: Quality assurance is not linked to the Bologna reform, and is an area in which no change is required. In the non-specialised university studied, however, this was seen as the one area in which the university had responded specifically to the Bologna recommendations, although the university administration representative thought it to be one of the few areas in which the United Kingdom was ahead of developments in Europe.

In the Dutch universities changes in quality assurance were minimal as the national system was “already quite far ahead”, with all programmes being assessed every five years through a process of self-evaluation and peer review. Similar to the United Kingdom, changes in the non-specialised university are seen as nationally rather than internationally driven. It was suggested that a driving force was the increasing role of international students as consumers in Dutch higher education. In the Netherlands this is still a developing area. In the specialised university this was seen as a key area of future change.

As the overarching plans for quality assurance in Switzerland weren’t put in place until 2007, at the time of interview the universities, and in some cases the departments in the universities, were at very different stages of development. In the non-specialised university in the French speaking part of the country, improvements in quality assurance were seen as unrelated to the Bologna Process, and preceded reform. In the Physics department quality assurance was identified as a problem area. Changes had met with internal opposition due to an increase in workload, although this has since been alleviated through improvements in administration and the introduction of automated systems. In the Arts Faculty however, no change was reported in this area. It had been talked about, but was not seen as a pressing issue, partly as a result of student apathy, and also the lack of pressure to draw in international students for fees, or to fill places as, it was suggested, may be the case in Anglo-Saxon countries.

In the specialised university quality assurance has been tightened across the university with structured student feedback since summer 2006 and accreditation by the OAQ. Accreditation from the French accreditation agency had already been assured due to the importance of French students in the university, and the

importance of recognition from French employers for graduates. In addition new systems were being trialled in the Mechanical Engineering department to improve quality assurance outside the OAQ framework.

In the Swiss German-speaking non-specialised university quality assurance was a big topic, directly linked to the Bologna Process. An *Evaluationstelle* has been set up to quality assure the level of research and administration across the university, and the Bologna Commission had been given the task of working on a concept for monitoring teaching across the university rather than in individual faculties/institutes as had previously been the case.

In the specialised university a new project has been established at university level to assess the quality of the current quality assurance handbook (5-10 years old). A road map has been developed to assess the quality of teaching and learning. In the Mechanical Engineering department a change had been noticed in the amount of quality assurance, but no change had been felt yet in the Physics department.

- **The use of the diploma supplement**

The use of the diploma supplement (DS) is related directly to whether the reform has been fully implemented or not. It is a second order change that presents little challenge to the accepted way of doing things. However, while it was described as a lot of work, but fairly straight forward, the diploma supplement caused disagreements in some departments and its introduction was slow in others. Table 6.3 shows where the DS has been adopted.

<Table 6.3>

In the United Kingdom the introduction of the Diploma Supplement was delayed, although it is now available in the majority of institutions (Wilkinson, 2012) In the non-specialised university, at the time of interview, the Diploma Supplement had not been introduced, but an academic transcript was under development and is now in place. In the specialised university it was expected to come in as a result of the Bologna Process, as and when the full process was adopted. It has however now been introduced ahead of other changes. In the Netherlands the at the time of interview the diploma supplement was in use in all departments.

In the non-specialised French-Swiss university the use of the diploma supplement was also delayed. Work had begun on implementation in the Physics department, where it became one of the main sticking points in discussions. It was perceived as a lot of work and generally unnecessary. In the other departments work began after the interviews, and has now been completed. In the other Swiss universities, the diploma supplement was rolled out with the two-tier degrees.

- **The use of credit points**

The introduction of credit points is, objectively, a first or second order change, depending what was in place before. In some departments it was relatively painless, involving little or only nominal changes. In other areas however Credit Points were thought to threaten the very fabric of the education system. The use of ECTS compatible credit points and the perceived threat to education is summarised in table 6.4.

<Table 6.4>

In both universities studied in the Netherlands credit points were in use prior to the changes, but these were not ECTS. The change in system required only minor alterations – the previous 7 points per module has now been increased to 10 – but the principle for awarding credits remains the same. ECTS was adopted along with the two-tier degree.

A similar adjustment was made in the Swiss Romande. In the non-specialised university some form of credit point systems were in use in the Physics and History departments, which were tightened and formalised. In the specialised university credit points were not in use, but their introduction was straightforward as the students had an ECTS compatible workload. The only corrections came in project work.

Credit points in the United Kingdom have not been used uniformly, and British system did not exist prior to 2001 when the key national credit bodies from England, Wales and Northern Ireland joined together to produce the Credit Guidelines for higher education qualifications. The impetus was largely national, as a response to the increased number and different level of higher education qualifications and to the government aims of widening access to higher education in the framework of lifelong learning. The introduction of a common framework and consistent approach to credit

levels compatible with ECTS was also outlined as crucial to Bologna compliance (CQFW et al. 2001). The resultant credit system is the British Credit Accumulation and Transfer Scheme CATS, in which ten hours work gives one credit, and 120 credits are awarded for each academic year of full-time study. A Master's degree should achieve 180 credits, meaning the workload is equal to the upper limits of the ECTS recommendations (1500 to 1800 hours) (the Burgess Group 2006). The British system is therefore ECTS compatible. In the non-specialised university in the school of Physics and Astronomy credits were in use, but in the Law school they were being newly introduced. From 2008 in the specialised, and 2011 in the non-specialised university, credits were in place across all courses (University 1 document 1, University 2 document 1). In the specialised university credit points were a particular problem due to the difficulty of allocating points based on the time invested in the degree in Master's degrees that were shorter than the Bologna recommended degrees.

Two main issues arose from credit point allocation. The first was the lack of standard use. On the one hand the reform demanded cross-departmental agreement on the way in which credit points are allocated within university faculties, for example based on individual courses, or overall achievement in an academic year. On the other hand the experiences of those courses where credits were compared with other universities highlighted the non-comparable nature of credit assignment, even in universities in the same region.

The second issue is the problem of focus on time invested in study, rather than the quality of the work delivered. It is this issue which is seen as challenging the fundamental goals of education and hence a threat. The faculty representative for the School of Humanities in England and the Faculty of Arts in the German-speaking region of Switzerland, where the administration of the ECTS system was one of the main areas of difficulty, shared similar fears: the process would lead to a focus on 'easy points' rather than students being encouraged to follow their academic interests (interviews 104, 705). These fears were also shared in the Swiss-German specialised university where the shift from degrees driven by interest to degrees driven by point collecting was perceived as "the most disastrous consequence" of the reform (joint interview 804/05/06). In this light the use of credit points is no longer a relatively

easily-implemented second-order change, but rather begins to challenge what is normal.

- **Entrance to the Master's degree**

The only requirement made explicit in the Bologna Declaration concerning entrance to the second cycle is that it should require successful completion of the first cycle, but it is included here as a point of difference and a potential barrier to mobility. The main issue arises where the division into two-tiers took place by accommodation of the new structures into the old way of doing things.

In England the entrance to the Master degree is selective: a student must achieve a higher level Bachelor. In the Netherlands students can enter a Master's programme with no pre-selection, even if they pass the BA with minimum grades. In the specialised university at the time of interview there was still an overlap between the Bachelor and the Master's phase, some students beginning with Master's courses prior to completion of the Bachelor, although this was seen as a main issue to be dealt with, and by 2012 entry to Master's was reliant upon completion of a Bachelor across the country (Leegwater, 2012).

In Switzerland the national regulations from the SUK require that all students with a Bachelor degree from a Swiss university have access to a Master's degree in the same subject field without any additional requirements. In the case of specialised Master's degrees there is the option of setting additional requirements for all applicants (SUK 2004). This has left space for some blurring of Bachelor and Master level programmes – for example in the History department of the French-Swiss non-specialised university where some modules were attended by third and fourth years. It was essentially seen as one programme, although evaluation for MA and BA students differed – and also led to some concerns in the German-speaking specialised university concerning the unequal treatment of national and international students, as mentioned in Chapter 5.

6.2.3 Differences resulting from slow acceptance of reform

It was stated in chapter three that the durability of informal rules means that a change in the formal rules does not guarantee a change in the way that things are done. The division of the Bachelor and Master degree, at least in the early stages, illustrates the point very clearly. The formal structures have been changed, but the wider

acceptance of these rules within the university, and in other institutions and organisations is lagging behind.

- **The acceptance of the Bachelor degree as a graduating degree**

The introduction of the Bachelor degree as a degree applicable to the European labour market, and therefore an appropriate level for graduation, challenged the accepted definition of a graduate in many European countries, where up until that point a minimum of four years education had been required for graduate-level entry into the labour market. Here we see a marked difference between the United Kingdom and mainland Europe. On the continent policies concerning the education requirements for teaching and the expectations of employers may also preclude the success of the Bachelor as a graduating degree.

At the time of writing, directly comparative data is not yet available, but from a review of the National Reports, the current indication is that the Bachelor leads to employment in the United Kingdom, but its importance as a graduating qualification is uncertain in Switzerland and at research universities in the Netherlands (table 6.5). Its acceptance is reliant on changes in the minds of employers, university professors, and students alike.

<Table 6.5>

At the university level in both universities studied in the United Kingdom, the Bachelor degree is completely acceptable as a graduating qualification. In the Dutch universities the Bachelor is rather a break point. In the non-specialised university the opportunity for weaker students to leave after three years with a qualification was welcomed. In the Dutch specialised university, although students are able to leave following graduation with a Bachelor degree, they were expected to continue their education, if not necessarily in the same department.

A major problem experienced in Swiss universities, and particularly in the non-specialised universities, was the need for Gymnasium level teachers to have a Master's level education: this made the idea of leaving after a three year degree, particularly in the History departments, far less attractive for most students, and was a result of cantonal policies. But this was not the only barrier. Although among other employers the BA may be acceptable as a qualification, those interviewed thought it would take time for students to adjust to the idea of leaving university after three

years. However, statistics on the number of first cycle graduates moving straight to the second cycle show a downward trend (2004: 84.7%, 2005: 80.5%, 2006: 78.9%), indicating more students may be entering the labour market, or taking a break from studies (Studinger 2008).

In the specialised university in the Swiss Romande, the expectations were more restrictive: at the time of interview at the university level the Bachelor degree was considered only an academic title for mobility, and not an appropriate level of qualification for employment. There had been no change in the content of the lectures in the first three years so the Bachelor degree could not be considered a professional title. In contrast the specialised university in the German-speaking region reconstructed the first three years of the degree with courses from later years, so students are able to enter the labour market.

6.3 Differential compliance within national systems

In this section the main differences in compliance at the department level will be explored to provide the context for the statistical analysis of these differences in chapter 7. Of the eleven differences in compliance listed in section 6.1 six are best analysed below the national level. As inter-institutional cooperation and integrated programmes of study are often aligned in practice, these are discussed together.

- **The length of the Master's degree**

The length of the Master's degree was a sticking point where: 1. the Bologna reform hit late in a sequence of change in educational structures with which it was not compatible; and 2. the external pressure was not significant enough to force change. Of the sample studied, these two conditions were present only in the Science and Engineering departments in England.

In the United Kingdom, the four year science degree or engineering degree, MSci or MEng respectively, is [still at the time of writing] offered alongside a three year Bachelor/one year Master's degree programme. The difference between the Master's as a postgraduate degree and the 4th year of the MSci is that the former tends to be more vocational and more specific, and is also a point for mobility. Although the British government argues that the MSci and MEng are Bologna compatible, achieving clear Bologna compatibility in time and credit allocation requires increasing the course to five years. This not only has implications for student debt (as students

generally live away from home and are largely self-funding in the United Kingdom) and staffing, but also touches on the core educational values in the departments. The physics representative (Interview 103) explained that the new structure "was the Anglo-saxon structure from ten years ago. We have moved on… the British have taken the initiative to move on, I can't see a way of squaring the circle." The strong reluctance to change "is not the UK dragging its heels. We made major changes ten years ago. If we have to unpick it for no reason other than conformity that would be a constraint".

Comparison of the Swiss and British experience suggests that the pressure exerted by the Bologna Process alone is not enough of an external shock to punctuate the equilibrium, the state is necessary to enforce these changes. The MSci is similar in length to degrees in continental Europe, and the Dutch and Swiss universities have "broken" the previous four or five year degrees into two tiers. Particularly in the Swiss German specialised university the division is extremely unwelcome and seen as a step backwards, similar to the response in the United Kingdom. The change is a clear break in the way in which higher education was understood and organised, with a different model of progression and the redefinition of a university graduate. The mass university at Bachelor's level and the specialisation at Master's level seen in most degrees in the United Kingdom, and welcomed in the Netherlands, was described by one Swiss commentator as very nice, but the exact opposite of the Swiss way (Interview 503). As expected, where changes impinged on core values they were resisted, but despite this the changes have been made as they were compulsory.

In the United Kingdom, even where compliance in this area has been considered, the possible solutions are limited by the lack of funding for an extra year of study. One potential solution within this restriction is the removal of the summer vacation, which has a negative impact on the time available for research. As such the pressure exerted from Europe is a point of major frustration in a closely compatible system: "the Bachelor and PhD already fit, so why are they still moaning about the Master's?" (Interview 103).

Nominal compatibility has been achieved in the specialised university, even though it was reported at university level that the degree structure would not change from the 3 year Bachelor, I year Master and 4 year MSci. The university response to the MSci

problem is that it should be valued at 270 ECTS, and the departments should find extra work to make up the credit[4]. 30 credit points are equal to 750 hours work. It was also hoped that the university could give 90 ECTS to a one year (12 month) postgraduate degree. The Physics department, unhappy with this solution, had requested to extend the one year Master's to two years. At present the course remains 12 months long. In the Mechanical Engineering department the MEng is also the favoured degree. With extra work in years 3 and 4 the MEng was scored at 270 ECTS. This structure has since also been adopted in the Physics department. The risk of changing without needing to do so was emphasised in the non-specialised university, the faculty respondent saying they would wait to see what others in the United Kingdom, and specifically in the Russel Group universities do: the university does “not want to be the first to jump” (Interview 101).

- **The promotion of mobility**

Student mobility was actively promoted in virtually all areas, however while vertical mobility (completing a full degree programme abroad) has improved or at least been enabled, horizontal mobility (spending a period of time studying in another country) has been made more difficult with the implementation of the Bologna Process. This threat to horizontal mobility is well recognised and was a major concern raised by European Students Union, ESU (then ESIB) at the Prague Summit.

<Table 6.6>

Overall mobility is increasing across each of the three countries studied, primarily in relation to the Erasmus programme, although the outward mobility ratio (the share of outwardly mobile students in the student population, expressed as a percentage) is healthier in Switzerland and the Netherlands than in the United Kingdom (table 6.6). In all of these countries more students come into than leave the country. As the UNESCO statistics have only recorded outward mobility since 2004, and mobility may be affected by a number of factors, including language education, financial support and trends, the effect of the Bologna Process on mobility nationally cannot be assessed. Due to the inconsistency, and in many cases lack of available statistics at the departmental, faculty and university levels, a clear comparison cannot be made

[4]At 60 ECTS a year, a four year course is currently valued at 240 credits

between the departments. Here I rely on respondents' reports of the effects of the Bologna reform on mobility. In all universities mobility is promoted in some sense, although the changes in course structures have at times formed a barrier to mobility, as indicated in table 6.7.

The Bologna reform has led to improvements in some areas in the recognition of time spent abroad and the awareness of students. A respondent in the British non-specialised university told me "[students] are told 'don't bother doing exams, because I won't recognise them.' Bologna may bring academics into line" (Interview no.103).

The improvement in individual departments is related to who the major exchange partners are, how far they have progressed with the Bologna reform, and how compatible courses are. Particularly in the specialised universities, flows from within Europe are secondary to flows of students from other countries. In the English specialised university there are a high number of international students, for example in the Mechanical Engineering department about 40% of students were from overseas at the time of interview, the majority were from Asia, and only about 10% from Europe, although it was thought that this balance was already shifting in favour of European students (interview 204). The Dutch specialised university has 24% international students, but most of these are non-European. It is likely that the delay in the impact of Bologna Process on the number of these international students will be greater than for their European counterparts.

The delay in implementation of the Bologna reform is only important in terms of compatibility in departments where there has been little promotion of mobility up to this point. In the British non-specialised university, the History department is actively involved in mobility programmes, but the drive towards further internationalisation seems to be lacking. In 2006/07 the school had only 6 incoming students, and no outgoing. Student mobility was considered to have a negative impact on the principle of progression in learning, and on learning outcomes. Here the impact of the Bologna reform is potentially greater than in the Law school, where international programmes are already established, meaning already relatively high numbers of mobile students, with 28 incoming and 22 outgoing in 2006/07.

Even where mobility is promoted and facilitated within a particular department, successful mobility clearly also relies on changes in partner institutions. Where

language regions are important, delay in reform can create delays in increases in mobility. The departments in the French-speaking part of Switzerland for example are limited in useful exchange with French universities until reform has also been implemented in France. However, where universities are reliant on the vertical mobility of students from outside of Europe the two-tier degree structures and credit point allocation are still useful in attracting these students.

Improvements have been found where courses are offered in English – clearly not a change in the United Kingdom, but this is effectively a levelling of the playing field in terms of attractiveness of courses. This can be seen in the Netherlands where a respondent in the Physics department of the specialised university suggested the limitation on increasing the number of incoming students (at the time of interview, approximately 7%) was language based: there is a low motivation for students to come to the university, they would be 'mad' to do so considering the opportunities elsewhere, particularly in English-speaking countries (Interview no. 402). The slightly higher numbers in the Mechanical Engineering department (around 10%) could be linked to the provision of Bachelors courses in English. The same has been observed in the Physics and History departments in the non-specialised university. In the Swiss specialised universities mobility has improved at the Master's level with the introduction of some courses in English and the break in studies.

Finally, table 6.7 shows that departments in which problems with outgoing horizontal mobility are a result of the reform can be found in each of the continental European universities studied, with the exception of the specialised university in the French-speaking part of Switzerland. Important here is how mobility worked prior to the reform, and the amount of change that has taken place in the way that the course is organised. One set of departments that experience problems are where courses were long (5-6 years) and flexible, allowing students time to study abroad without it necessarily being a recognised part of the degree, such as the Dutch Law department. The other are those departments where the degree structure kept courses that were necessary for graduation within the final years of study. The creation of the Bachelor degree has, in the Swiss departments shown in table 6.7, led to overloading in the second year, making mobility difficult. The specialised university in the Swiss Romande had a less dramatic reorganisation of courses, so this problem did not arise.

<Table 6.7>

- **Inter-institutional cooperation and integrated programmes of study**

At the time of writing, inter-institutional cooperation within Europe is, in most cases, an area for future development. Most departments had some form of cooperation with other departments or universities, but many were local, particularly in Switzerland. These links were based around sharing resources and ease of movement between universities. Some had strong international links at the time of interview, but these were independent of the Bologna reform and often outside of Europe. The table below summarises the changes that had taken place, and were taking place, at the time of interview. Developments in this area were secondary to, and will be facilitated by, the structural changes.

It can be seen from table 6.8 that the amount of change taking place varies from department to department, with the exception of the Dutch non-specialised university where large changes in these areas were expected.

<Table 6.8>

In some areas, compatibility will be high independent of the Bologna Process. In the English non-specialised university there were already strong links internationally in the Physics and Law departments, in the Physics departments these were mainly outside of Europe. In both, links with international universities were anyway predicted to increase. The History department were in talks with another institution but there were no concrete developments. The same was true of the English specialised university. Both departments offered international courses with a year in Europe and more joint degrees, including at the doctoral level, were seen as the next step.

The departments in the Dutch non-specialised university were also involved with other institutions. The Physics department had close cooperation with one Asian university, and one local university, the latter in a move to increase efficiency in use of resources, but not elsewhere in Europe. In the History department the provision of courses in English and the integration of international students were the continuation of a pre-Bologna trend towards increasing international cooperation. In the specialised university in the Mechanical Engineering department a joint programme of study had been established with a Norwegian university. The Physics department

had a joint programme with a nearby university, but no formal international cooperation.

In the Swiss universities it was expected that change would be aided by the reform, but it remained difficult. In the Swiss Romande, inter-institutional cooperation has been made easier, but largely with other universities in the region. As in the case of mobility, cooperation with other universities remained difficult as the process had been delayed in France, and was “seen differently” in the German speaking part of the country. It was felt that (inter)national cooperation could be enhanced were the two Swiss systems to be brought together. More change is hoped for in this area in the next few years, particularly in the specialised university. The respondent here was positive about the effect of the reform on cooperation with other institutions: “we now speak the same language. The concepts aren’t identical but at least [the Bologna Process] helps with communicating… it has clarified a lot” (Interview 603).

In the universities in the German language region little change had been seen at the time of interview, but the only real difficulty outlined in the specialised university was the technical difficulty of organising inter-institutional cooperation. As in the United Kingdom, there was a difference in the experience of the departments within the universities. The Physics department had experience of running programmes with the nearby university, but these were a result of the need to share resources rather than a move towards integrated programmes of study associated with the Bologna Process. Students on these courses graduated with a degree from their own institution. In the non-specialised university change was expected. The Law department in particular was advanced in its inter-institutional cooperation: integrated programmes of study were being developed at the time of interview (but are not yet available to new students), including a planned joint Master’s course with English, Belgian, and German universities, as well as one within Switzerland.

- **Joint degrees**

The development of joint degrees also suggests that departmental differences exist alongside national differences. Legally, barriers exist at both national and university levels. In the Netherlands at the time of interview new legislation was being worked on to allow the development of joint degree programmes (Heiligers 2008). This is now in place (Leegwater 2012). In the United Kingdom some older universities,

including the non-specialised university in this sample, were unable to issue joint degrees due to their statutes (Heiligers 2008).

In Switzerland no legal barriers to joint degrees existed and joint programmes had been established, although not in all departments. Table 6.9 below shows the availability of joint degree programmes in 2010 (at the end of the process). Of particular interest are international programmes, although where trans-disciplinary programmes, or joint programmes with other national universities were available this is indicated.

<Table 6.9>

It is clear that the number of international joint degrees is extremely limited. As stated above this can be explained partly by national differences, but logistical differences related to the different courses were also cited. Within Switzerland it is also notable that joint programmes can, and have been, set up within the country offering a bilingual experience to students without the need to cross national boundaries. This national exchange is also facilitated by the Bologna Process and increasing standardisation and transparency within the Swiss system.

- **Change at the doctoral level**

The doctoral level was, at the time of interview, primarily an area for future development. Many of the departments that were early in starting with changes in the third tier were science (and one engineering) departments working on the establishment of graduate schools. The competitive pressure for comparability with the American system and the implications for attracting international doctoral students was felt more keenly in this subject field than elsewhere, especially in the Swiss specialised universities. In the English non-specialised university a secondary motivation was establishing “insurance” for the Bologna Process – ensuring the third tier fitted.

Of the two History departments where planning had begun, one was necessitated by changes elsewhere. In the Netherlands, the introduction of a research Master's meant that research funding had been cut from 4 to 3 years at the doctoral level. In the other, in the Swiss-German university, change was more far reaching. In the Arts

faculty discussion had begun concerning a shift from self-standing PhDs to curriculum-led doctoral studies: a paradigm change.

6.4 Conclusion

The national system affected and affects the implementation of the Bologna reform in a number of ways. On the one hand the structure of the national higher education system determines the amount and type of change that is needed and the adaptational pressure that is felt. On the other hand, state level action, including existing policies and direct responses, or lack of response, to the Bologna Process can force or limit change and compliance in the universities. In addition, the expectations of employers and students also play an important role in determining the success of the reform, change in the formal rules can be determined at state level, but the accepted norms take more time to change.

Although the national differences are important in shaping compliance, in most of the areas of difference identified, differences are seen between the universities and between departments within the national system. From the overview of departments a number of facts are becoming apparent. The first is that the level of compliance is high. In all departments studied the major structures are in place, although for different reasons: in some cases as a consequence of compatibility of the previous structures, or values, in others as a result of reform. In addition, the context of reform is complex – many changes are taking place outside of the Bologna Framework. In many cases the European project is less important than other forms of internationalisation, or inter-institutional cooperation. The latter tends to be local – a result of the need to share resources – or if it is international, it is often outside Europe.

The departmental level appears important in that structures and values, and therefore the type and depth of change, vary at this level, but, as was expected, the effect of the reform is limited where change is not forced by national level policies. The balance between these local and national processes in shaping reform will be investigated statistically in the following chapter.

What was not expected however is the way in which the wide reach of the reform creates problems in itself. Both the geographical reach – in that success in one country is partly dependent on successful (compatible) reform elsewhere – and the

breadth of areas covered – changes in structures impinge on increases in mobility – limit its success.

Tables and Figures

Table 6.1 Compliance scores for each department

UK G			UK S		NL G			NL S		CHF G			CHF S		CHG G			CHG S	
P	H	L	P	ME	P	H	L	P	ME	P	H	L	P	ME	P	H	L	P	ME
67	60	63	52	56	81	81	73	69	75	67	67	77	85	73	77	73	83	73	81

Table 6.2 Ranked compliance scores by department

Department	Points
CHF S Physics	85
CHG G Law	83
NL G Physics	81
NL G History	81
CHG S Mech Eng	81
CHF G Law	77
CHG G Physics	77
NL S Mech Eng	75
NL G Law	73
CHF S Mech Eng	73
CHG G History	73
CHG S Physics	73
NL S Physics	69
UK G Physics	67
CHF G Physics	67
CHF G History	67
UK G Law	63
UK G History	60
UK S Mech Eng	56
UK S Physics	52

Table 6.3 Implementation of the diploma supplement in departments

University	DS in use at time of research	DS in use now
UK G	No (yes in Physics)	Yes
UK S	No	Yes
NL G	Yes	Yes
NL S	Yes	Yes
CHF G	No (yes in law)	Yes
CHF S	Yes	Yes
CHG G	Yes	Yes
CHG S	Yes	Yes

Table 6.4 Implementation of credit points in departments

		Credit points in place pre-Bologna	ECTS compatible credit points in place at time of interview	ECTS compatible credit points in place 2010	Credit points seen as problematic
UK G	Physics	No	Yes*	Yes	No
	History	Yes (for mobility)	No	Yes	Yes
	Law	No	No	Yes	No
UK S	Physics	No	No	Yes	Yes
	Mech Eng	No	No	Yes	Yes
NL G	Physics	Yes	Yes	Yes	No
	History	Yes	Yes	Yes	No
	Law	Yes	Yes	Yes	No
NL S	Physics	Yes	Yes	Yes	No
	Mech Eng	Yes	Yes	Yes	No
CHF G	Physics	Yes	Yes	Yes	No
	History	Yes	Yes	Yes	No
	Law	Yes	Yes	Yes	No
CHF S	Physics	No	Yes	Yes	No
	Mech Eng	No	Yes	Yes	No
CHG G	Physics	No	Yes	Yes	No
	History	No	Yes	Yes	Yes
	Law	No	Yes	Yes	No
CHG S	Physics	No	Yes	Yes	Yes
	Mech Eng	No	Yes	Yes	No

*used only for mobility and transfer

Table 6.5 Destinations for students at the end of the first cycle

	Employment	Further study
United Kingdom (2006/07)	63%	16% further study only 9% with employment
Netherlands (2005/06) research universities	6% (or enrolled in foreign university)	94%
Switzerland (2005/2006)	-*	78.9%

Source: National Reports - Leegwater 2006; Studinger 2006; Green 2008

* In Switzerland the number of Bachelor diplomas awarded was uneven between universities and subjects at this point in time. Employment rates could not be predicted as in many disciplines Bachelor degrees had not been awarded before.

Table 6.6 Mobility flows in selected countries

Country	Outward mobility rate (%)		Inbound mobility rate (%)	
	2004	2007	2004	2007
Netherlands	1.9	2.2	3.9	4.7
Switzerland	5.1	5.3	18.2	18.0
United Kingdom	1.0	1.1	13.4	14.9

Source: Global Education Digest 2006 and 2009. Unesco Institute for Statistics. Montreal (http://www.uis.unesco.org/Library/Pages/default.aspx)

Table 6.7 Negative effect of Bologna reform on mobility

University	Department	Mobility inhibited by reform
UK G	Physics	No
	History	No
	Law	No
UK S	Physics	No
	Mech Eng	No
NL G	Physics	No
	History	Yes
	Law	Yes
NL S	Physics	Yes
	Mech Eng	No
CHF G	Physics	No
	History	Yes
	Law	No
CHF S	Physics	No
	Mech Eng	No
CHG G	Physics	No
	History	No
	Law	Yes
CHG S	Physics	Yes
	Mech Eng	No

Table 6.8 Change in inter-institutional cooperation and integrated programmes of study by department

		Changes by 2006		Upcoming changes at time of interview	
University	**Department**	**Inter-institutional cooperation internationally**	**Integrated programmes of study internationally**	**Inter-institutional cooperation**	**Integrated programmes of study**
UK G	Physics	Yes	No	None	None
	History	No	No	-	-
	Law	Yes	No	None	None
UK S	Physics	Yes	No	Moderate	Major
	Mech Eng	Yes	No	None	None
NL G	Physics	Yes	No	Minor	Major
	History	No	No	Major	Major
	Law	No	No	Major	Major
NL S	Physics	No	No	Minor	-
	Mech Eng	No	Yes	Moderate	Moderate
CHF G	Physics	No	No	None	None
	History	No	No	-	-
	Law	No	-	None	Minor
CHF S	Physics	Yes	No	Minor	Minor
	Mech Eng	No	No	Major	Minor
CHG G	Physics	No	No	Minor	Minor
	History	No	No	Moderate	-
	Law	Yes	Yes	Major	Major
CHG S	Physics	No	No	-	-
	Mech Eng	No	No	Minor	Minor

- no answer

Table 6.9 Availability of joint degree programmes by department

University	Department	Joint degree programmes
UK G	Physics	No
	History	No
	Law	No
UK S	Physics	No*
	Mech Eng	No**
NL G	Physics	No
	History	No
	Law	No
NL S	Physics	No
	Mech Eng	No**
CHF G	Physics	No
	History	No
	Law	No**
CHF S	Physics	No*
	Mech Eng	No
CHG G	Physics	No
	History	No
	Law	Yes***
CHG S	Physics	No
	Mech Eng	No**

source: university online prospectuses checked March 2010

*with other departments but not internationally

**with other universities, but not internationally

***double degree (student receives a qualification from both universities)

Chapter 7 Explaining Compliance

In this chapter I will seek to examine quantitatively the importance of the different levels of analysis, and understand the differing levels of compliance seen in the university departments. The chapter will unfold in three parts. Firstly I will test the basic assumptions concerning the use of studying compliance below the national level. Secondly I will address the five variables introduced in Chapter 3 and consider whether, and how, they vary across national systems, university types and disciplines (linkage A on figure 7.1). Finally I will test the five hypotheses (linkage B on figure 7.1).

7.1 Revisiting the model of compliance

It was proposed in chapter 2 that the level of compliance with the Bologna reform would be likely to differ not only *between* national education systems, but also *within* them. Three assumptions were outlined which formed the basis for the thesis:

1. There will be differences in compliance between universities in one national system
2. There will be differences in compliance between subject areas in one university
3. Similar levels of compliance will be seen in the same subject areas in different national systems

In chapter 3 the likely reasons for differences in compliance were outlined, with reference to five variables shown to be important in literature on institutional stability and change, and the following five hypotheses were formulated:

H1: The closer the “fit” between the recommendations laid out in the Bologna Declaration and current structures within the universities, the greater the level of compliance

H2: Where the aims of the Bologna Process are perceived as being in line with the key values held in the university, compliance will be greater

H3: Greater compliance can be expected in more centralised systems

H4: Compliance will be greater where there is strong competitive pressure

H5: Where strong guidance is lacking or unclear, compliance will be greater where an entrepreneur pushes through change

In this chapter first the assumptions, and then the hypotheses will be tested empirically, to test the following model (figure 7.1)

<figure 7.1>

It should be remembered that the choice of countries, universities, and departments should only lead to variation in the independent variables. No distinct patterns have been hypothesised, the aim is to explore the importance of the different levels of analysis.

7.2 Testing the assumptions

It has already been shown in chapter 5 that national policies on Bologna differ, forcing, placing limitations on, but also providing opportunities for, change. The compliance scores given in table 6.1 were shown in chapter 6 to vary both within national systems, and between subject areas in individual universities. Assumptions 1 and 2 are supported by the data collected: there are variations in compliance within national systems and within individual universities. Assumption 3, that there are similar levels of compliance in one subject area in different national systems, can be tested quantitatively using dummy variables for the region ("national" system), type of university and discipline (table 7.1).

<table 7.1>

Based on this analysis, admittedly with a small number of cases, there are no distinct patterns along discipline lines. The only significant differences in compliance are along national lines. The United Kingdom has a significantly lower level of compliance than the Dutch base group. Based on this we can dismiss the third assumption: similar levels of compliance are not seen in the same subject areas in different universities, but rather the importance of the system level seems to hold. The question now becomes why. This will be returned to in section 7.4 after variation in the explanatory variables has been addressed.

7.3 Exploring the relationship between the explanatory variables and the region, type of university, and discipline.

In this section the distribution of four of the explanatory variables will be examined using dummy variables for the region, university type, and discipline, to explore patterns in variation. This can be used as a basis for thinking about the importance of the institutional elements, and forces for change, outlined in chapter 3. For each variable, its distribution across the departments studied will be outlined, followed by a statistical analysis of the distribution over regions, university types and disciplines. Where appropriate, significant differences will then be explained.

7.3.1 Distribution of structural fit

The structural fit between the structures proposed by the Bologna reform and the pre-Bologna structures is a result of the level of policy misfit (the balance between legal misfit and its practical implications) and the polity misfit (the changes that would have to be made to key procedures). The level of misfit was classified as high, medium, or low. A high level of misfit gives 3 points, a medium gives 2 points and a low 1 point. No misfit gives 0 points. The score for each university shown in table 7.2 is a summary of the total fit in all areas, ordered from least misfit (best fit) to highest misfit. A detailed breakdown of the points awarded in each area is shown in appendix 6.

<table 7.2>

To consider on what level the variance in misfit can be best understood, a series of regressions were run using dummy variables for the regions, disciplines and type of university. The results are reported in table 7.3. The only significant differences to the base group can be seen at the national level: Misfit is significantly higher in both the United Kingdom and in the German speaking region of Switzerland than in the Netherlands (the base group), and misfit is highest in the latter.

<table 7.3>

The high levels of misfit in the Swiss-German universities resulted from the lack of QA at the national level, outlined in chapter 6, and the lack of compatibility in terms of degree structure. Compared to those in the United Kingdom and the Netherlands, the loose degree structure of the *Licence* was a very different model to the rigid two tier structure proposed in the Bologna declaration. However, in the French-Swiss region,

with the exception of the History department, the courses studied were easily split into the 3+2 structure through alterations to the timing of exams, but with limited changes to course content. In the History department the necessary changes were greater, but welcome, and eased by the degree having had a similar structure in the early 1990s. The departments of the German-speaking area of the country, on the other hand, lie in the higher end of the distribution and are classified as having a medium level of misfit, with the exception of the Mechanical Engineering department where a revision of the plan of studies in 1997 had led to a structure which could be more easily converted to the two-tier structure.

A low level of polity misfit occurred in the Swiss universities in the administrative structures (in some new organisations were set up to deal with the implementation process) or technical systems – in the general university in German-speaking Switzerland large problems developed concerning the computer system for organising and grading the new degree structure. In addition regulatory changes were required in Switzerland to change the semester dates.

The difference between the level of fit in the United Kingdom and the Netherlands occurs at three levels. The first is the lower importance of the “European” policy goals (comparability, compatibility, promotion of the EHEA) in the United Kingdom. The second, the misfit in terms of the length of the Master's degree. Third, in the science and engineering subjects this is compounded by the integrated MSci and MEng degrees.

This policy misfit in England is accompanied by a polity misfit – the changes that can be made at the university level are limited by the lack of a national response to the Bologna Process. These limitations are felt most acutely in the specialised university which has a stronger international profile, and in the science and engineering subjects. In the case of most subjects the two-tier system with a two year Master's degree places a small challenge to how things are done in terms of the routines and procedures of education. In the case of the courses with an integrated degree as the main degree the misfit is higher – there is a greater challenge to crucial procedures and the high costs of science education mean that without state help the challenge cannot be overcome.

7.3.2 Distribution of the compatibility of the Bologna reform with key values

The choice of key values outlined in this section is based on the work of Premfors (1982) on the core values in higher education: Autonomy, Accountability, Excellence, Equality and Efficiency. These are supplemented with the key values implied in Bologna related documents referred to here as the "International values". Respondents were asked to rate these items on a scale from 1 (of low importance) to 5 (of high importance) and the mean importance rating in each department for each item was calculated. Respondents were also asked to consider the effect of the Bologna reform on each item, as negative, neutral or positive, or "don't know". For each department, the percentage of respondents reporting no impact, or a positive impact on a particular item was multiplied by the mean importance rating of that item in the department, to show where the Bologna reform was least threatening to key values. The scores for total compatibility are given in table 7.4. The full details of the composite values can be found in appendix 7. In this section the overall results are given, followed by an individual analysis of the distribution of, and the impact of the Bologna reform on, each key value in turn.

<table 7.4>

<figure 7.2>

Figure 7.2 indicates that there is a correlation between the region, the department type and the total perceived fit between the Bologna reform and the key values held in the department. This is tested quantitatively in the regression shown in table 7.5. The analysis shows that all three aspects have some explanatory value. On the regional level, the impact in the United Kingdom is viewed as significantly less benign than in the other countries. The major reason for this is the large number of "don't know" responses in the United Kingdom to the questions concerning the impact of the Bologna reform, with, for example, 62% of respondents saying that in all cases they don't know what the impact of Bologna on autonomy is. When the "don't know" responses are excluded from the sample there is, however, still a significant difference between the United Kingdom and the other countries at the 5% level[5].

<table 7.5>

[5] UK Unstandardised coefficient -317.22, se =114.33, sig=.013

Compared to the base group, Physics, a much higher compatibility is seen in Mechanical Engineering, and correspondingly there is a significant difference between the two types of university, with the Bologna Process being seen as less threatening in the specialised universities. The reason for this higher compatibility between the Bologna reform and the values held in Mechanical Engineering departments varies from university to university. Figure 7.2 shows that the high level of compatibility in the Netherlands is related to high compatibility in the areas of excellence and the international elements. Here the effect is largely due to the reported *impact* of the Bologna reform in these areas: over 60 percent of respondents reported a positive impact in the international elements, 60 percent reported an improvement in excellence in teaching. In the United Kingdom compatibility is high in the same areas but this is a result of the *importance* given to these elements rather than the perceived effect of the reform on them: only in the case of excellence of students upon admission and student mobility is the impact of Bologna seen as positive by over 25% of respondents (50% and 33% respectively).

In Switzerland the respondents from both Mechanical Engineering departments rated autonomy highly. The majority thought the Bologna reform would have no effect on this. In the French-speaking part the international elements were also important, with over 40% of respondents reporting a positive or no effect. Efficiency was a greater contributor to the high compatibility score in the German-speaking part, where 50% reported no effect. Based on this analysis, it would be difficult to argue that there is something about Mechanical Engineering departments in particular which leads to higher compatibility between key values and the Bologna reform.

Now that I have looked at the variation in compatibility of the key values I will move on to examine the importance of each key value, and the perceived impact of the Bologna Process on it, in turn. To identify whether there are patterns in the values held in particular departments I will first calculate the mean importance of each value within each department. This information is given in full in appendix 5, and presented topic by topic in graph form in this section. In appendix 5 the standard deviation gives an indication of unity – a lower standard deviation indicating less difference in opinion in the department. The importance of each value, as reported by all interview and questionnaire respondents, will then be analysed by running a regression using dummy variables for national system, discipline and university type. In this way we

can see which level, if any, is most determinate of the values held. It should be noted that in all cases, the R^2 value is low, suggesting a large error variance and limited explanatory power of these levels.

Autonomy

Autonomy consists of four elements: autonomy of universities, of faculties, of departments and of individual academics.

<Figure 7.3>

<Table 7.6>

Figure 7.3 shows the importance of the different elements of autonomy by department, ordered from greatest importance, to least importance. Overall, autonomy is most important in the Swiss-German universities, and the autonomy of universities is highly rated in most departments. Other forms of autonomy show more variance. A regression using dummy variables shows the regional level to have the greatest explanatory power (table 7.6). Autonomy is of greater importance in the United Kingdom and Switzerland than in the Netherlands. This could be expected as the Dutch system is highly centralised, and both the English and Swiss systems have a long history of autonomy.

Generally the effect of the Bologna Process on all levels of autonomy was thought to be negative: 40 out of the total 151 respondents considered the effect had been/would be negative across the board. However, for each type of autonomy roughly equal proportions reported a negative effect as no effect, so the results are inconclusive. Despite this, a number of tentative observations can be made.

First, there is a national pattern in the impact of the Bologna reform on autonomy: the compatibility is significantly higher in the French-speaking part of Switzerland than the base group of the Netherlands (table 7.7). This will be discussed in further detail below. Second there is no strong correlation between the amount of change needed and the perceived effect on autonomy ($r=.37$, sig $=.11$, $n=20$). Where the changes to be made are small and therefore clearly defined, such as the need to produce a diploma supplement, this can be seen as a threat to autonomy. Larger changes can leave more scope for internal decision making and adaptation, and can therefore be less of a threat. The Bologna Process does not *de facto* threaten autonomy, rather

the way that it is handled at the national and university levels is more important: the more centralised the decision-making, the more strongly defined the changes, and the more prescriptive the solutions, the greater the threat to autonomy at lower levels.

<table 7.7>

To give some examples: The lack of knowledge of the Bologna Process and its effects in the English general university is clear, with 62% of respondents saying that in all cases they don't know what the impact of Bologna on autonomy is. The English specialised university has more experience with the process and respondents viewed effects on all types of autonomy as negative, particularly in relation to the autonomy of departments (72.7% of respondents suggest a negative impact). This is the most important level of autonomy in this university, and may be a response to the way the reform was rolled out within the university – departments being told to find a fixed number of credits from current courses – which reduced the decision-making power within the department.

In the Dutch universities a negative impact on the autonomy of the department and of academics was reported in the History department. Here, the implementation of the reform had involved major restructuring of the curriculum, and although decisions about content were made within the departments there had been unhappiness with the faculty level decision to broaden the Bachelor degree. In the specialised university there was less change to the curriculum, but in the Mechanical Engineering department opposition from individual academics to the additional work required for the diploma supplement and quality assurance procedures could threaten autonomy at lower levels. In the Physics department the implementation was very top-down. Little internal change was necessary, so the changes that were made (clearer division of first and second tier, alteration of credit points, introduction of DS) were seen as external and forced.

The contrast between the Swiss-German universities is striking. In the general university there is a strong perception in the History and Law departments that there has been no real impact on autonomy. In the Physics department in the specialised university however, the negative effect is seen as very pronounced. No respondents use the "don't know" option, suggesting strong opinions concerning the changes that have taken place. In the Mechanical Engineering department opinion is split between

a negative effect and no effect in each case. The response in the Physics department reflects a deep dissatisfaction with the changes that had to be made: “we tried to keep the course as similar as possible, but are *forced* to change to something considered less” (Interview 804). Although decision-making within the departments was inclusive, the decision to create an artificial break in the course is seen as top-down, affecting the autonomy of the university, faculty, department and academics.

To return to the French-Swiss cases, it can be seen that top-down change does not necessarily pose a threat to autonomy: In the History department in the French-Swiss non-specialised university, seen by the university level respondent as having been the most problematic section of the university (interview 505), the majority reported no impact. This despite the fact that the implementation was seen by the faculty respondent as a “forced exercise” which very few colleagues did enthusiastically (Interview 501). In the Physics department of the same university however, where implementation was fastest, four of the six respondents reported a negative impact in all areas of autonomy.

Accountability

<figure 7.4>

<table 7.8>

As figure 7.4 shows, in all but two of the departments, accountability to national society was more important than other forms of accountability. The way in which these differences can be understood is tested using a regression on each form of accountability with dummy variables at each level (table 7.8). Significant differences are seen only in the lower importance of accountability in History departments. Compared to the base group of Physics departments, there are significant differences at the 95% level in the importance of accountability to industry and employers (R^2 = .11, adjusted R^2 = .09), and the accountability to national society (R^2 = .05, adjusted R^2 = .03). History is the least vocational subject of the selection, with educators in the areas of Physics and Mechanical Engineering needing to follow more closely the requirements of industry or society. Overall the number of “don’t know” responses concerning the impact of the Bologna reform was a lot higher for Accountability than for the other values chosen. This is likely to be related to the timing of the questioning: a longer period of time is needed to assess the impact.

However, a marked negative effect was reported on accountability to the local community, particularly in the Physics and Mechanical Engineering departments.

To understand this we can refer to Neave's review of changing accountability in European universities (Neave 2003). Neave suggests that the dual processes of the regionalisation of national systems and the growth of "Europe" as a super-ordinate community in higher education means that individual institutions, and, I would argue, departments, have the opportunity to choose the referential community from one or more of the international community, the national community, and the regional (local) community. At least in terms of perception it seems there is a change in the community on which these Science and Engineering departments are focussed, away from the local level. Of course, a longer time period between implementation and research would be required to see if this were actually the case. Traditionally the local community has been of greater importance in the United Kingdom and Switzerland, but the same shift is felt in the Netherlands.

Interestingly, 40% of respondents in the Netherlands (n=30) thought that accountability to national society had increased as a result of the Bologna reform. This is the only country in the study where national society is historically the main referential community for universities, and also the country where the state has the strongest policies concerning the implementation of the Bologna reform.

In the specialised universities, where accountability to industry and employers is seen as more important, the impact in this area was viewed as more negative than in the non-specialised universities. The difference is particularly great in the German speaking area of Switzerland and the United Kingdom, with over three times as many respondents reporting a negative impact in the specialised university in the Swiss region. This is also accompanied by a larger number of 'don't know' responses in non-specialised universities (UK 57.1%, CHG 50%). These are both regions where the degree has been through earlier reforms to arrive at an "optimal" education to create an employable physicist/engineer. A step away from these structures could be seen as a move from accountability to employers and towards the state. On the other hand, the issue may be the length of university education employers expect, and therefore the lack of employability of students graduating after the first cycle. If so this will change over time as new norms are established.

Excellence

<Figure 7.5>

<table 7.9>

As would be expected, excellence in both teaching and research was rated of high importance across all departments (figure 7.5), and this was the area with the lowest standard deviations, indicating a high level of agreement between respondents. Running regression analyses on the importance of all three types of excellence shows the region to be the most significant explanatory factor, as can be seen in table 7.9. Significant differences are seen at the national level, with a higher importance of excellence in the United Kingdom. This is possibly a result of the importance of a high level of student upon admission, also significant at the 95% level, although in a model with very weak explanatory power (R^2 = .07, adjusted R^2=.05). In the United Kingdom students must achieve particular grades to attain access to university courses. In Switzerland and the Netherlands as long as the appropriate level of school education is achieved, the grade is not important.

In terms of the impact of the Bologna reform, the trade-off between time for teaching and research in the university is marked in the data. The Bologna reform is expected to have a positive effect on teaching as is outlined in chapter 8, but of greater concern here is the perceived effect on research: 66 of 151 respondents expected excellence in research to suffer as a result of the Bologna reform, particularly in the specialised universities. Grouping respondents by subject, more reported a negative impact in Mechanical Engineering (67.86% n=28) and Physics (49.21% n=63) than History (23.53% n=34) and Law (30.77% n=26). The main reason for this suggested in interview was the time taken away from research for administration, or teaching.

As far as excellence in admissions is concerned, in eleven of the twenty departments studied, most respondents expected a negative impact. Only in the Mechanical Engineering department of the English specialised university did the majority report a positive impact (50.00% n=4). Overall, the bulk of respondents reporting a positive impact were in the specialised universities, with the exception of the Netherlands where the figure for the non-specialised university was over 30%. This may be due to the high numbers of international students being recruited by these universities – more international students means more of the best students.

Equality

<Figure 7.6>

<table 7.10>

Equality, framed as the importance of affirmative action in favour of students from disadvantaged backgrounds, varies, but not significantly, from department to department (figure 7.6). However, as can be seen in table 7.10, there are no clear patterns in the mean importance along the lines investigated. Generally there is a lack of connection between the Bologna Process and equal admissions – the percentage of respondents answering 'don't know' to the impact question is high – but where an impact is reported it is mainly negative.

Efficiency

<figure 7.7>

<table 7.11>

As figure 7.7 shows, there is greater variation in the importance of economic efficiency. Overall economic efficiency was valued more in the British and Dutch universities, and less in the Swiss universities. The regression analysis however shows that the regional, discipline and university based differences are not significant (table 7.11).

The effect of the Bologna Process on economic efficiency was thought to be negative in most of the departments studied, particularly in the Dutch and British specialised universities (Netherlands 6 of 13, United Kingdom 6 of 10). There were also once again a large proportion of respondents answering with "don't know" (41.98%, n= 151), suggesting that it is too early to tell. Concerns about the economic impact, in the United Kingdom at least, were related largely to the extra costs of running a longer Master's degree (Interview 201). Elsewhere the reform has led to an increase in administration, leading in some cases to new staff being employed and the necessity to develop new administration systems. Both of these elements impact efficiency.

International elements

<figure 7.8>

<table 7.12>

In eleven of the twenty departments studied, international student mobility and/or equal admissions for national and international students were more important than comparability or compatibility (see figure 7.8). Comparability of degrees is more important than compatibility in all departments but three: The English Law department, the Swiss-German History department, and to a greater extent the Dutch History department.

As table 7.12 shows, the only level at which there is a significant difference in the importance of international elements is the regional level, with respondents in the German speaking part of Switzerland rating them less important than the base group, the Netherlands. Indeed the importance in the Netherlands is higher than in any other region, reflecting the institutionalised international focus in higher education.

In the short term at least, it seems the Bologna Process hasn't necessarily improved comparability and compatibility of degrees. In the Dutch system the impact in these areas was seen as positive in all departments apart from the History department (1 vote positive, 2 don't know for each item), and the Law department with an equal number of positive and negative impacts on comparability (2 votes each). The British respondents again were unsure of the outcome, but the responses gained from the Swiss Universities, with the exception of the Physics department in the Swiss-French non-specialised university, were largely negative: 40% of respondents reported a negative impact on comparability, 43% on compatibility (n=92). As outlined in chapter 6, two reasons for this may be the differential timing of reform across Switzerland, and Europe, and national and departmental differences in implementation (Interview 503, also recognised in the Netherlands: Interview 303). One respondent reported that understanding the value of study elsewhere was different than before Bologna, but not easier: If anything, the awareness of difference has increased, and become more measurable (Interview 503).

Summary

Overall examination across disciplines and types of universities brought little to the understanding of variations in values. Where significant differences were observed, in three out of four cases these were at the national level, suggesting that this is the most important level for structuring norms in higher education. The discipline was

only useful in explaining differences in the importance of accountability. However, analysis of the overall importance of the compatibility of the Bologna reform and these key values (table 7.5) shows that when the impact is included, differences can also be observed between the disciplines and the types of university.

7.3.4 The level of centralisation in each university

In this section scores are assigned to each university based on the level of centralisation. The level of centralisation was calculated using the European University Association's assessment of university autonomy in national systems in the fields of organisation, finance, staffing and academia (Estermann and Nokkala 2009). This was supplemented with information on the proportion of funding in the university received from the national level, and the level of centralisation in the implementation of the Bologna reform. To allow comparison across all fields, for each criteria the university was graded on a 0 to 3 scale where 3 is the highest level of centralisation. A summary of the total scores for each university, ordered from lowest to highest, are shown in table 7.13. A full outline of the scores and additional information concerning university finance is shown in appendix 8.

<table 7.13>

It can be seen in table 7.13 that the English system has the lowest level of centralisation, and this is true in each of the individual categories (organisational, financial, staffing and academic autonomy). The main differences between the English universities and their continental counterparts are seen in financial autonomy (for detailed figures see appendix 8). The highest level of centralisation overall is seen in the Swiss specialised universities, due to their federal character, with a higher proportion of centralised funding and federal involvement in staffing (staff are employees of the state) and setting the director's term of office (Schweizerischen Bundesrat 2010).

In the Dutch and English cases there is little difference between the specialised and non-specialised universities; the only variations are seen in funding. A closer breakdown of funding sources shows a greater reliance on research grants and contracts in the British specialised university, indicating a stronger link to industry. In the Netherlands however the specialised university receives a higher proportion of

state funding, with the non-specialised university receiving more from student fees and other sources.

7.3.5 The distribution of competitive pressure

<table 7.14>

As a variable for competitive pressure I take the number of international students as a proportion of the total student population (including those completing their doctoral studies) in the year 2005 (table 7.14). Although there are differences in the number of international students in the departments studied, significant differences are seen only at the regional level (table 7.15): There is a significantly higher number of international students in the French-speaking part of Switzerland than the Netherlands, and a large difference between the two Swiss regions.

<table 7.15>

Again, the differences between departments show no clear patterns, but rather result from particular local conditions, such as the willingness of individuals to promote mobility, or take part in mobility schemes and the nature of the course. In a number of the universities one of the departments studied has noticeably higher numbers of international students (the exception being the Swiss specialised universities). In the English non-specialised university it was the Law department, in the English specialised university the Mechanical Engineering department. In the remaining universities the Physics departments have a higher proportion of international students than the other departments.

7.4 Understanding compliance: Impact of structural fit, value fit, centralisation and competitive pressure

In section 7.2 it was shown that there is a significant difference at the national level in the level of compliance with the Bologna reform, with the United Kingdom having significantly lower levels of compliance than the control group, the Netherlands. The discipline and type of university have very limited explanatory power. In this section I will look at the impact of the intermediary variables on compliance (linkage B on figure 7.1). I will begin with a statistical test of the first four hypotheses. The final hypothesis concerning the presence of an entrepreneur will be discussed in section 7.5.

<table 7.16>

To begin, the null hypotheses concerning structural fit, values fit, the level of centralisation and competitive pressure can be tested (table 7.16). The high R^2 shows this model to be useful in explaining the variation in compliance, but only the level of centralisation makes a statistically significant individual contribution. Based on the results of the regression analysis, hypothesis 3 – Greater compliance can be expected in more centralised systems – should be accepted. The other null hypotheses cannot be rejected. The two significant variables in explaining compliance are being in the United Kingdom and the level of centralisation (reference table 7.1). Low compliance in the United Kingdom is due to dual effect of a perceived lack of need to comply, and a lack of ability to comply. The former at all levels, although the national level perception that the United Kingdom is already sufficiently close to the Bologna model leads to a lack of national policy, which in turn limits action within universities. The United Kingdom is also the least centralised region in the group, a factor which may skew the importance of centralisation in explaining variation. However, the level of centralisation in the Netherlands prior to the reform was crucial in pushing through change quickly and effectively. In Switzerland the eventual system-wide response was also sufficient to push through comprehensive rapid change and overcome resistance.

The importance of centralisation can be used to explain the lack of effect of structural and value fit. Structural misfit is certainly necessary for change, and at a national level at least, considering the example of England, it seems true to say that a certain amount of misfit is needed to kick-start change (Cerych and Sabatier 1986). However, structural misfit and resistance arising from the desire to protect key values are overcome if the university or national policies require changes to be made.

When considering value fit, one should also consider the nature of the dependent variable “compliance”. Compliance as measured here, and in the trends reports and national reports, is essentially structural. Moreover, the interviews pointed to room for variation within compliant structures. To a limited extent key areas can be protected, such as the provision of outside subjects in the Swiss German general university, while compliance is achieved. This will be addressed in the following chapter.

Surprisingly, the effect of the number of international students is slightly negative. It was thought that high competitive pressure would mean greater compliance, but the United Kingdom, with a significantly lower level of compliance compared to the other regions, has high numbers of international students, particularly in the specialised university.

7.5 The effect of the presence of an entrepreneur

It was suggested at the end of chapter 3, that entrepreneurs could be most successful where strong guidance was lacking or unclear, as in the case of Switzerland prior to 2003, and (at least) up to 2010 in the United Kingdom. Based on the interviews there are only two cases where a particular person was considered to have driven change in the department – the Physics department in the non-specialised university in the German speaking part of Switzerland, and the Physics department in the specialised university in the United Kingdom (tables 7.17 and 7.18).

<table 7.17>

<table 7.18>

<table 7.19>

If we are to accept the importance of an entrepreneur we should see greater compliance in the department where an entrepreneur was present than in the other departments in the same system. A regression using the two dummy variables for the presence of an entrepreneur shows that it did not make a significant difference to compliance in either case (table 7.19). In fact, in both departments the presence of an entrepreneur appears to have a negative effect. This doesn't mean that the entrepreneur hampered change, but in one case the base group showed greater amounts of change, in the other the entrepreneur was frustrated in his actions.

In the case of the Swiss German non-specialised university, compliance is high, but is not the highest in the university. Of all the departments studied it has the 6th highest level of compliance, and the third highest level of compliance in the five departments studied in German-speaking Switzerland. The lower score is due to the lack of integrated programmes of study or joint degrees, and the Bachelor degree not being seen as a graduating degree. However, the Physics department was the first

department to introduce the Bologna reform. In this case the presence of an entrepreneur was important in driving change ahead of time, and the experience helped shape wider change in the university.

In the English university the story is quite different. The policy entrepreneur in the specialised university has thus far been unsuccessful in making progress in terms of getting the policy implemented. Despite national and international tours presenting information regarding the Bologna Process and championing change in the United Kingdom and great success in raising awareness (respondents in the non-specialised university in the United Kingdom also referred to his work), he has not been able to persuade those at higher levels in the country, and indeed in his own university, to begin a comprehensive process of change. The major problem was that despite all his efforts the university level actors had different ideas as to how the Bologna Process would work at the university, and the impact it should have. As a result of these differences he was effectively disempowered by the university. The lack of a policy window has left his efforts frustrated.

As a result of this analysis, the null hypothesis that “the policy entrepreneur has no impact on compliance” cannot be rejected. However, despite the fact that policy change hasn’t happened yet, the profile of the Bologna Process in this university is higher than elsewhere (maybe also due to its high international profile and number of international students, and its central location nationally), and also in his subject. A problem here may be the expectation of greater compliance. As is outlined above, the entrepreneur is skilled at coupling solutions to problems, not necessarily ensuring complete compliance with the initial policy. A better indicator of the importance of an entrepreneur may be the time taken to achieve changes: in both cases here the time taken to respond was faster when an entrepreneur was present, whether he was successful in making changes or not. Secondly, a delay in state response is not sufficient for an entrepreneur to push through change. In the United Kingdom two barriers remain. Firstly, for actors in universities to move forward independently it would be necessary to present the reform as providing solutions to existing problems, without causing undesirable damage. As compliance with Bologna necessitates a package of changes, some of which are seen as very threatening, there is little incentive to respond. In addition, the necessary resources must be in place to allow

changes, and until support is secured at the national level the financial resources necessary to achieve the required credit at Master's level is simply not available.

7.6 Conclusion

It can clearly be seen in this chapter that the national system is the best explanatory level for both variation in compliance, and for variation in the key variables thought to shape compliance. Of the five intermediary variables explored, four varied at the national level, the exception being the presence of an entrepreneur – only relevant in two departments. The discipline was useful in explaining variation in the compatibility of key values, but made little impact elsewhere. Although it was thought that the importance of each of the individual key values explored might show significant variation at the department level, this was only the case for accountability. For each of the other three values in which the models used had any explanatory power – autonomy, excellence and international elements – variation was significant only at the national level. The different types of university were also only significant in the case of key values.

The importance of the national level can be understood more clearly when one considers that the level of centralisation of the national system is the most significant factor in explaining compliance with the Bologna reform. The decisions made at the national level outlined in chapter 5 force or limit changes regardless of the difficulty of, or level of resistance to, compliance. Change below the national level, where the power of actors could potentially be strengthened by processes of Europeanisation or Globalisation, is limited by the national priorities. At least in terms of structural change, here actors have limited opportunities in the face of Bologna as a tool for meeting national goals.

Overall, these findings support the focus on system-level comparison of change, particularly in researching the impact of institutional differences on changes, but despite a lack of patterns across discipline types, important differences in the values, experiences, and levels of compliance, in the chosen departments have been uncovered through a departmental analysis.

Tables and Figures

Figure 7.1 The model of compliance

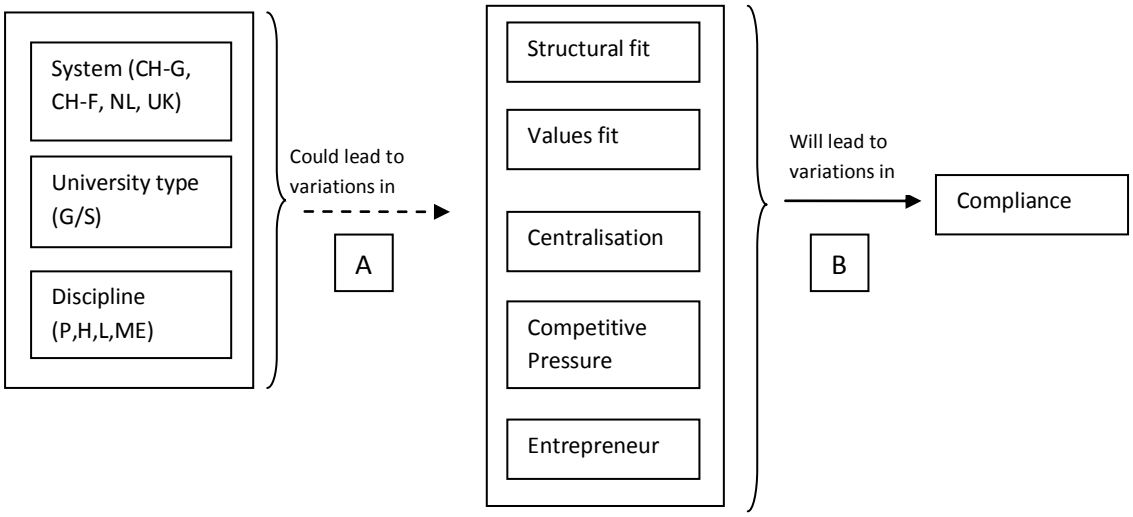


Table 7.1 Regression results for level of compliance by region, discipline and university type, showing unstandardised coefficients with standard errors in parenthesis

	Region			**Discipline**		**University type**	
Constant	(NL)	75.80		(Physics)	71.38	(S)	70.50
		(2.64)			(3.45)		(3.27)
	UK	-16.20	***	History	-1.13	G	1.92
		(3.74)			(5.98)		(4.22)
	CH-F	1.60		Law	2.63		
		(3.74)			(5.98)		
	CH-G	-2.00		Mech Eng	-1.25		
		(3.74)			(5.98)		
R-squared		.64			.02		.01
Adj. R-squared		.58			-.16		-.04
Number of observations		20			20		20

*** indicates significance at the 99% level

Table 7.2 Level of misfit by department

Department	Level of Misfit
NL S Physics	10
CHF G Law	10
NL G History	11
NL S M Eng	11
UK G Law	12
CHF G Physics	12
NL G Physics	13
NL G Law	13
CHF G History	13
CHF S M Eng	15
CHF S Physics	16
UK S M Eng	16
UK G History	17
UK S Physics	17
CHG S M Eng	17
UK G Physics	20
CHG G History	23
CHG G Law	23
CHG S Physics	23
CHG G Physics	24

Table 7.3 Regression results for degree of misfit by region, discipline and university type, showing unstandardised coefficients with standard errors in parenthesis

	Region		**Discipline**		**University type**	
Constant	(NL)	11.60	(Physics)	16.88	(S)	15.63
		(1.09)		(1.75)		(1.70)
	UK	4.80***	History	-.88	G	.29
		(1.54)		(3.08)		(2.18)
	CH-F	1.60	Law	-2.38		
		(1.54)		(3.03)		
	CH-G	10.40***	Mech Eng	-2.13		
		(1.54)		(3.03)		
R-squared		.77		.05		.00
Adj. R-squared		.73		-.13		-.06
Number of observations		20		20		20

*** indicates significance at the 99% level

Table 7.4 Total compatibility score and compatibility of the Bologna reform with key values for each department

Department	Total Compatibility score	Autonomy	Excellence	Accountability	Equality	Efficiency	International
NL S M Eng	1120.8	146.0	296.0	139.0	104.0	136.0	299.75
NL G Law	972.1	143.8	178.9	92.5	116.7	133.3	306.9
CHF S M Eng	954.1	245.3	192.9	115.5	27.8	69.1	303.5
CHG S M Eng	945.8	233.3	180.7	94.8	72.0	180.0	185.2
UK S M Eng	886.0	101.6	208.3	71.9	87.5	91.8	325.0
CHG G Law	863.4	217.8	216.5	19.4	98.0	81.7	230.0
CHF S Physics	834.7	167.6	177.0	92.0	30.6	74.0	293.5
NL G Physics	821.8	48.6	229.6	57.1	31.3	117.8	337.5
CHF G History	795.7	211.8	212.7	41.7	35.0	96.6	197.9
CHG G History	790.9	328.6	155.7	84.3	47.6	47.8	126.9
CHG S Physics	781.4	137.7	182.2	84.8	95.1	143.8	137.9
NL S Physics	761.7	124.3	199.7	92.3	34.4	36.0	275.1
CHG G Physics	677.8	109.8	166.8	43.4	0.0	131.3	226.5
CHF G Law	567.1	128.4	149.1	55.5	38.8	0.0	195.2
NL G History	530.6	30.6	55.6	69.5	133.3	100.0	141.7
CHF G Physics	524.6	87.5	202.9	51.7	0.0	27.8	154.7
UK S Physics	524.0	28.5	101.8	43.0	111.0	50.0	189.6
UK G Physics	423.0	68.3	93.3	61.8	66.6	85.0	48.0
UK G Law	352.7	48.1	69.4	44.4	53.0	55.1	82.6
UK G History	216.4	16.3	46.2	12.3	34.7	0.0	106.9

Figure 7.2 Compatibility between key values and the Bologna reform

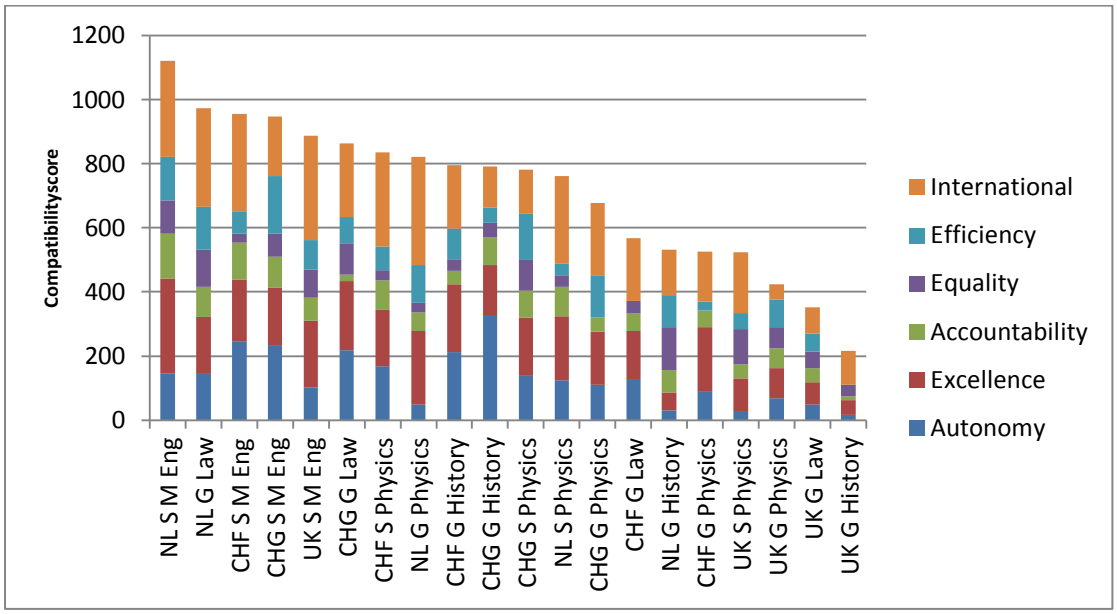


Table 7.5 Regression results for compatibility of key values using dummy variables for region, discipline and university type, showing unstandardised coefficients with standard errors in parenthesis

	Region		Discipline		University type		Significant dummies	
Constant	(NL)	841.40	(Physics)	668.62	(S)	845.30		804.38
		(88.61)		(72.30)		(23.70)		(69.900)
	UK	-360.98**	History	-85.18	G	-223.04**	UK	-315.75***
		(125.32)		(125.23)		(95.82)		(69.90)
	CH-F	-106.16	Law	20.19			G	-97.44
		(125.32)		(125.23)				(78.15)
	CH-G	29.53	Mech	308.05**			Mech	251.20**
		(125.32)	Eng	(125.23)			Eng	(95.72)
R-squared		.39		.35		.23		.72
Adj. R-squared		.28		.23		.19		.66
Number of observations		20		20		20		20

**, ***indicates significance at the 95% level and 99% level respectively

Figure 7.3 Mean importance of aspects of autonomy by department

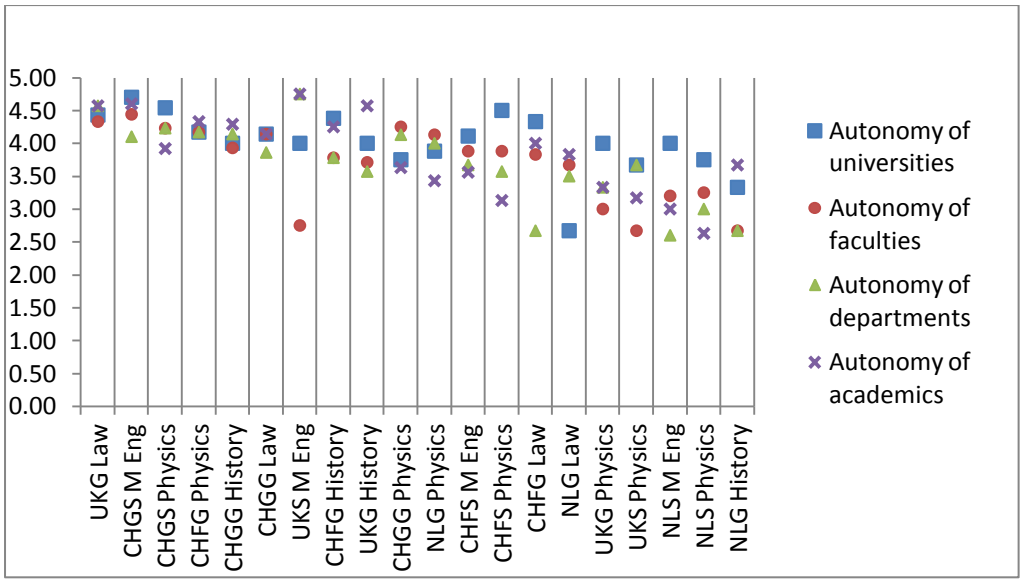


Table 7.6 Regression results for importance of university autonomy using dummy variables for national system, discipline and university type. Table shows unstandardised regression coefficients and standard errors in parentheses.

	System		Discipline		University type	
Constant	(NL)	13.38	(Physics)	14.94	(S)	14.99
		(.58)		(.64)		(.61)
	UK	1.99**	History	.25	G	.47
		(.82)		(1.11)		(.79)
	CH-F	2.26**	Law	.73		
		(.82)		(1.11)		
	CH-G	3.26***	Mech	.59		
		(.82)	Eng	(1.11)		
R-squared		.51		.03		.02
Adj. R-squared		.42		-.15		.04
Number of observations		20.00		20.00		

**, ***indicates significance at the 95% level and 99% level respectively

Figure 7.4 Mean importance of areas of accountability by department

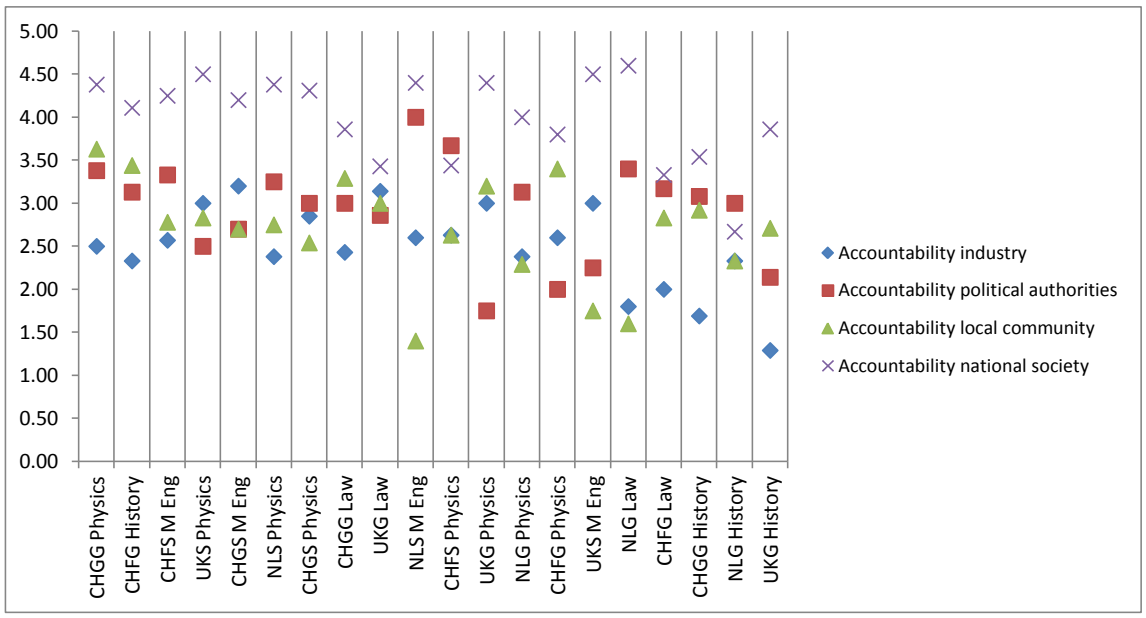


Table 7.7 Regression total autonomy compatibility by region, discipline and university type, showing unstandardised coefficients with standard errors in parenthesis

	Region		**Discipline**		**University type**	
Constant	(NL)	98.65	(Physics)	96.54	(S)	148.02
		(27.93)		(29.61)		(.29.96)
	UK	-46.09	History	50.30	G	-28.03
		(39.50)		(51.29)		(38.67)
	CH-F	106.79 **	Law	37.99		
		(39.50)		(51.29)		
	CH-G	69.48	Mech Eng	84.99		
		(39.50)		(51.29)		
R-squared		.53		.16		.03
Adj. R-squared		.44		.00		-.03
Number of observations		20		20		20

** indicates significance at the 95% level

Table 7.8 Regression results for importance of accountability using dummy variables for national system, discipline and university type. Table shows unstandardised regression coefficients and standard errors in parentheses.

	System		**Discipline**		**University type**	
Constant	(NL)	11.738	(Physics)	12.56	(S)	12.54
		(.42)		(.30)		(.32)
	UK	.08	History	-1.42**	G	-.69
		(.60)		(.51)		(.41)
	CH-F	.56	Law	-.63		
		(.60)		(.51)		
	CH-G	.90	Mech	-.16		
		(.60)	Eng	(.51)		
R-squared		.16		.34		.13
Adj. R-squared		-.00		.22		.09
Number of observations		20.00		20.00		20.00

** indicates significance at the 95% level

Figure 7.5 Mean importance of excellence by department

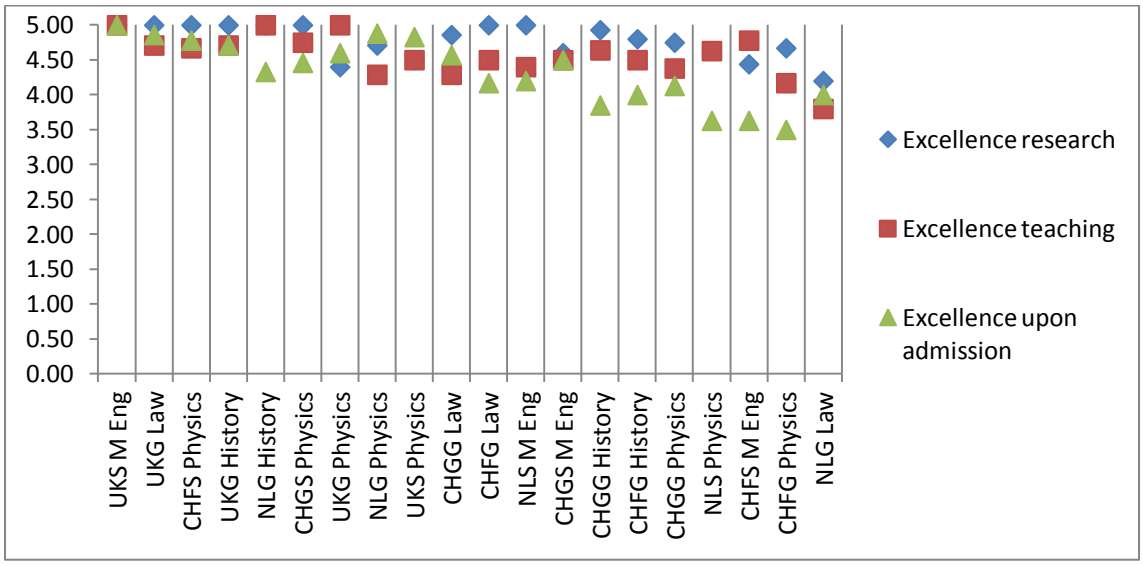


Table 7.9 Regression results for importance of excellence in research using dummy variables for national system, discipline and university type. Table shows unstandardised regression coefficients and standard errors in parentheses.

	System		**Discipline**		**University type**	
Constant	(NL)	13.34	(Physics)	13.61	(S)	13.80
		(.30)		(.29)		(.27)
	UK	1.02**	History	.26	G	-.23
		(.43)		(.50)		(.35)
	CH-F	-.02	Law	-.12		
		(.43)		(.50)		
	CH-G	-.30	Mech	.16		
		(.43)	Eng	(.50)		
R-squared		.33		.03		.02
Adj. R-squared		.20		-.15		-.03
Number of observations		20.00		20.00		

** indicates significance at the 95% level

Figure 7.6 Mean importance of affirmative action in favour of students from disadvantaged backgrounds by department

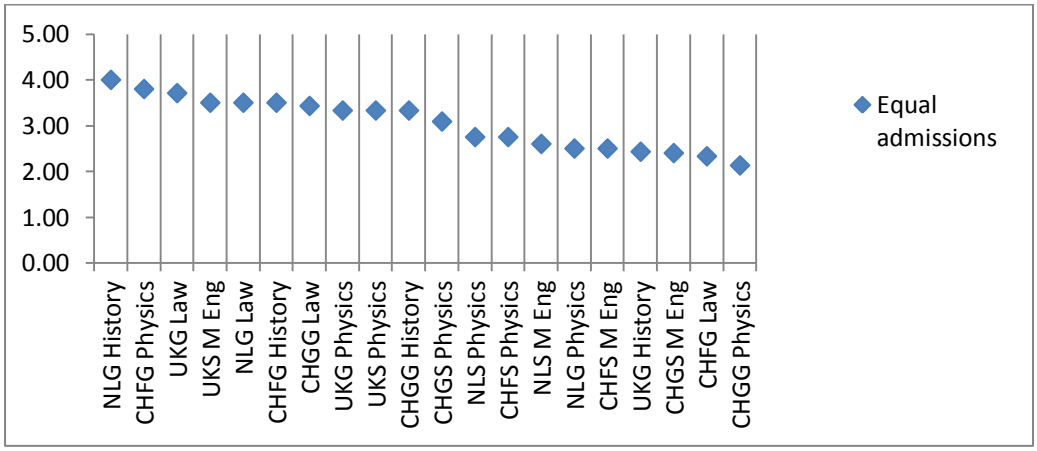


Table 7.10 Regression results for importance of equality in universities using dummy variables for national system, discipline and university type. Table shows unstandardised regression coefficients and standard errors in parentheses.

	System		**Discipline**		**University type**	
Constant	(NL)	3.07	(Physics)	2.96	(S)	2.87
		(.27)		(.20)		(.20)
	UK	.19	History	.36	G	.30
		(.38)		(.35)		(.26)
	CH-F	-.09	Law	.28		
		(.38)		(.35)		
	CH-G	-.19	Mech Eng	-.21		
		(.38)		(.35)		
R-squared		.07		.14		.07
Adj. R-squared		-.11		-.02		.02
Number of observations		20.00		20.00		20.00

Figure 7.7 Mean importance of economic efficiency by department

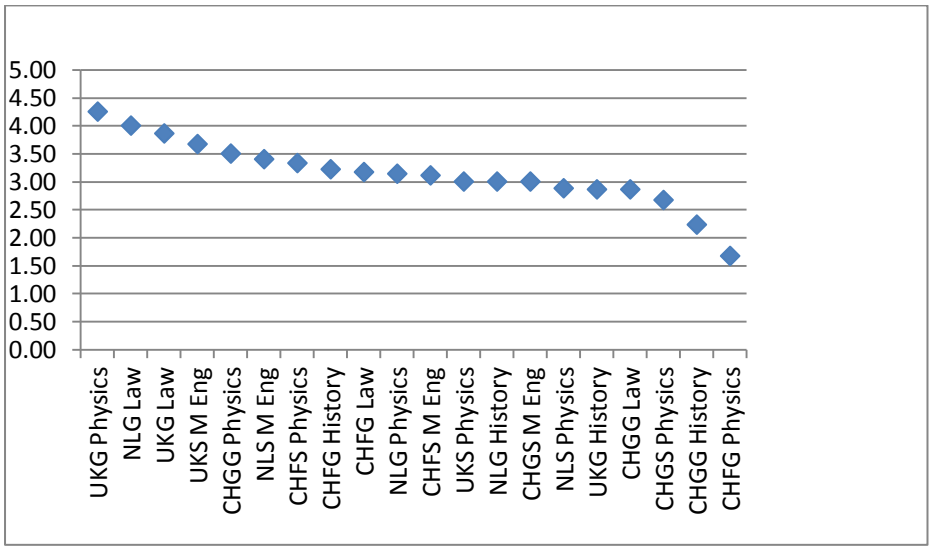


Table 7.11 Regression results for importance of economic efficiency in universities using dummy variables for national system, discipline and university type. Table shows unstandardised regression coefficients and standard errors in parentheses.

	System		**Discipline**		**University type**	
Constant	(NL)	3.28	(Physics)	3.06	(S)	3.13
		(.25)		(.21)		(.21)
	UK	.24	History	-.23	G	.01
		(.35)		(.36)		(.27)
	CH-F	-.38	Law	.42		
		(.35)		(.36)		
	CH-G	-.43	Mech Eng	.24		
		(.35)		(.36)		
R-squared		.24		.15		.00
Adj. R-squared		.10		-.01		-.06
Number of observations		20.00		20.00		20.00

** indicates significance at the 95% level

Figure 7.8 Mean importance of international elements by department

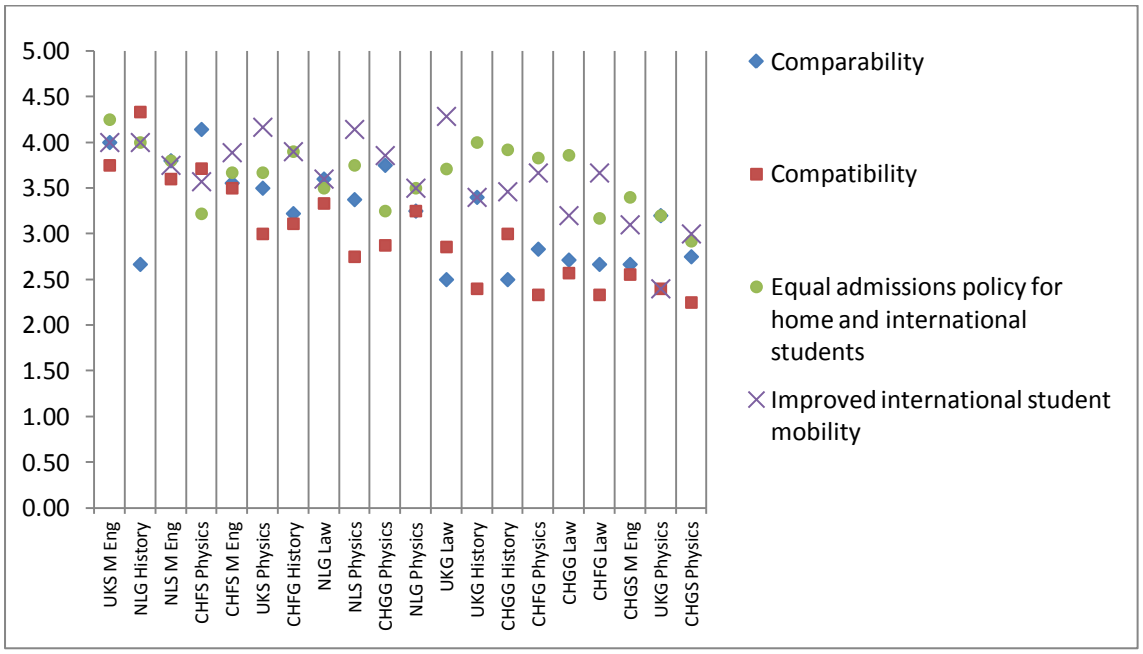


Table 7.12 Regression results for the total importance of international elements using dummy variables for national system, discipline and university type. Table shows unstandardised regression coefficients and standard errors in parentheses.

	System		Discipline		University type	
Constant	(NL)	14.30	(Physics)	13.13	(S)	13.90
		(.56)		(.48)		(.48)
	UK	-.68	History	.68	G	-.75
		(.79)		(.83)		(.61)
	CH-F	-.72	Law	-.24		
		(.79)		(.83)		
	CH-G	-1.98**	Mech	1.19		
		(.79)	Eng	(.83)		
R-squared		.29		.16		.08
Adj. R-squared		.16		.00		.02
Number of observations		20.00		20.00		20.00

** indicates significance at the 95% level

Table 7.13 Total scores in each area of autonomy, and total centralisation score for each university

Area of autonomy	UK S	UK G	CHG G	CHF G	NL G	NL S	CHF S	CHG S
Organisational	6	6	9	9	11	11	11	11
Financial	8	8	16	16	14	14	16	16
Staffing	2	2	3	3	2	2	4	4
Academic	12	12	14	14	16	16	14	14
Total Centralisation Score	28	28	42	42	43	43	45	45

Table 7.14 Percentage of international students in each department in descending order

Department	Percentage of students international (2005)
UK S ME	56.42
CHF G P	49.73
CHF S P	40.66
UK S P	40.30
CHF S ME	38.51
CHF G H	35.99
CHF G L	33.21
CHG S ME	24.03
CHG G P	23.48
CHG S P	23.18
NL S P	18.52
UK G L	17.93
NL G P	14.00
CHG G H	11.74
NL S M E	10.59
CHG G L	9.49
NL G H	7.00
UK G P	6.05
UK G H	4.31
NL G L	4.00

Table 7.15 Regression results for percentage of international students using dummy variables for national system, discipline and university type. Table shows unstandardised regression coefficients and standard errors in parentheses.

	System		Discipline		University type	
Constant	(NL)	10.82	(Physics)	26.99	(S)	31.53
		(5.63)		(5.52)		(5.25)
	UK	14.18	History	-12.23		-13.35
		(7.97)		(9.57)		(6.78)
	CH-F	29.04***	Law	-10.53		
		(7.97)		(9.57)		
	CH-G	7.56	Mech	5.40		
		(7.97)	Eng	(9.57)		
R-squared		.48		.44		.42
Adj. R-squared		.38		.19		.18
Number of observations		20.00		20.00		20.00

*** indicates significance at the 99% level

Table 7.16 Regression results for the level of compliance with the Bologna reform showing unstandardised coefficients and standard errors in parentheses.

Model 1: All explanatory variables	
Constant	28.60
	(9.44)
Structural fit	.23
	(.27)
Value fit	-.00
	(.01)
Centralisation	1.13***
	(.24)
Percentage of	-.14
International students	(.08)
R-squared	.73
Adj. R-squared	.65
Number of observations	20.00

*** indicates significance at the 99% level

Table 7.17 Presence of an entrepreneur driving the Bologna reform in the Swiss universities prior to 2003

Department	**Uni level**	**Physics**	**Mech Eng**	**History**	**Law**
CHG G	N	Y	-	N	N
CHG S	N	N	N	-	-
CHF G	N	N	-	N	N
CHF S	N	N	N	-	-

Table 7.18 Presence of an entrepreneur driving the Bologna reform in the English universities from 2003 to 2007

University	**Uni level**	**Physics**	**Mech Eng**	**History**	**Law**
General	N	Y	-	N	N
Specialised	N	N	N	-	-

Table 7.19 Regression results for the level of compliance with the Bologna reform showing unstandardised coefficients and standard errors in parentheses.

Dummy variable Entrepreneur and Centralisation	
Constant	33.69
	(8.23)
Entrepreneur UK	-9.20
	(6.08)
Entrepreneur CHG	-4.79
	(5.69)
Centralisation	.98***
	(.21)
R-squared	.70
Adj. R-squared	.64
Number of observations	20.00

*** indicates significance at the 99% level

Chapter 8 Understanding responses to the Bologna reform

In chapters 2 and 3, the Bologna reform was framed as a process of change requiring a response. The levels of compliance discussed in the previous two chapters is only one part of this. In this chapter the focus is widened to consider both change and response more completely. At this point four questions remain unanswered. Two arise from the theoretical framework: Where has most change occurred as a result of the reform? How has change occurred? And two from the definition of response: Where have wider changes occurred (and how)? And what has the impact of the reform had on education?

I will deal with these questions in the order they are presented above, beginning by explaining where larger amounts of change have occurred as a result of the reform and then identifying the drivers of change, returning to the mechanisms of change outlined in section 3.2.2. In the third section I address the question of where the reform was responded to as an opportunity to make changes beyond those required for compliance, and again refer to the mechanisms of change to draw up a model of how change has occurred. In the final section, I take a step towards considering the outcome of the Bologna Reform in the chosen universities. Due to the timing of research, the full outcome in the sense of the impact on the policy area cannot be addressed (Winter 1990). Here the outcome is limited to the impact on the overall standard of education in the departments, which is largely positive.

8.1 Where has most change occurred?

The total amount of change in each department was calculated based on the interviews, where respondents were asked to rate the amount of change in ten key areas (1=no change, 5= completely new system). On first glance, the amount of change has a strong correlation with compliance (figure 8.1). The total amount of change along with the level of compliance for each department is shown in table 8.1.

<Figure 8.1>

<Table 8.1>

The relationship between the two variables was investigated using Pearson product-moment correlation coefficient. There is a strong positive correlation between the two variables (r=.82), significant at the 95% level. Higher levels of compliance are

associated with major changes. Logically of course this should be expected, but the causal relationship is a little more complicated than it may first appear as it has been seen that in some departments, such as the Dutch Physics departments, compliance doesn't necessarily require a large amount of change.

In the theoretical framework, change driven directly by the Bologna requirements was thought to be related to the level of misfit, the basic assumption being that higher levels of misfit would be associated with higher levels of change. Figures 8.2 to 8.5 shows the relationship between change and misfit in the different countries. Here it can be seen that the French part of Switzerland and the Netherlands basically follow this pattern (the exception being the History department in the Netherlands) (figures 8.2 and 8.3), whereas in the United Kingdom and the German-speaking part of Switzerland the amount of change decreases with increasing misfit (figures 8.4 and 8.5).

<Figure 8.2>

<Figure 8.3>

<Figure 8.4>

<Figure 8.5>

Misfit is clearly a necessary condition for change, but focussing only on this ignores two key factors: the desire to change, and the ability to change. There is a high readiness to change in the French-Swiss specialised university and the Netherlands, even at lower levels of misfit. In the Swiss German universities, where there was a greater level of misfit, the willingness to change was less – only necessary changes were made. Secondly, the British case shows that even where both misfit and in some cases a desire for change are present, without the support of the state as the provider of resources, change cannot occur. There are then three necessary conditions for change: misfit, an agent of change (at the national, university or departmental level), and the necessary resources.

To understand variations in change between the departments, we return to the outcomes proposed at the end of chapter 3 (figure 3.1). Three types of change were outlined based on the work of Börzel and Risse (2000); absorption, accommodation, and transformation. Based on the level of fit, five outcomes were suggested.

Where the Bologna Reform is highly compatible with the previous path:

A. desired changes will take place, leading to high compliance (accommodation and absorption are sufficient)
B. no change will take place, though compliance will be high

Where the Bologna Reform is not compatible with the previous path:

C. no change will take place, resulting in low compliance/non-compliance
D. absorption/accommodation means limited compliance
E. transformation leads to high levels of compliance

Fitting these into a matrix of relative fit and state support, the departments can be classified as shown in table 8.2.

<Table 8.2>

Although the departments in the French-Swiss specialised university had a middling misfit score (see table 7.2), they are considered to have relatively high fit due to the Bologna compatible path created by the change in leadership at the university level.

As was expected, absorption and accommodation are the norm in adapting to the new structures, and as some changes are needed in all departments accommodation is most common. Where lack of resources limit any real change absorption – incorporating the changes proposed into their current structures with minimal changes to existing ways of doing things (Börzel and Risse 2000) – is the only possible approach. This was by-and-large the case in the specialised university in the United Kingdom, where current course structures could be maintained, and credit points applied to them with a clear aim of ensuring Bologna compatibility. This led to dissatisfaction among those who wanted a more comprehensive review and reform, particularly in the Physics department. To highlight the differences between this and the Mechanical Engineering department, it is referred to in table 8.3 as a case of frustrated absorption.

Transformation – the introduction of substantially new policies or processes, or alteration of existing ones in ways that change essential features or collective understandings (Börzel and Reiss 2000) – is not necessarily a result of the level of misfit, but of the way the changes were dealt with. For example, the Law department in the Dutch university saw large changes in the curriculum with the total exclusion of a module on theoretical law. This is a fundamental change in a course with a low

level of misfit. This suggests that at the departmental level changes were greatest where actors *wanted* to make them, not only where they were forced.

In other courses with a higher level of misfit actors fought to maintain as much of the previous structures as they could (Swiss-German general university Physics department). In addition, the total amount of change can be large in departments where accommodation/absorption are seen (table 8.1) as a completely new structure can be introduced, but without large changes in content.

8.2 How does required change happen?

Coming back to the mechanisms for change outlined in section 3.2.2, five were seen operating often simultaneously in the universities and departments studied. These mechanisms operate at different levels within the universities, where key decisions concerning structure and content are made. Two – external political pressure and/or competitive pressure – were necessary for change and drivers for isomorphic structures. Alterations in power structures aided more rapid changes. The other two will be discussed in relation to wider change in section 8.4.

1. External political pressure leading to isomorphism

The major drive for the process was political pressure external to the universities. In most of the Swiss departments, with the exception of those in the French-Swiss specialised university and the Swiss-German non-specialised Faculty of Science, coercive pressure from the state pushed the changes through. The same can be said of the Dutch universities. It is important to note however that in these cases isomorphism is limited to structures. The content of degrees has not become more similar, indeed the increased possibility of specialisation at the Master's level is an indicator for divergence rather than convergence. External political pressure is of course lacking in the United Kingdom. Here other mechanisms of change take precedence.

The evidence for other drivers of institutional isomorphic change is limited. There was little international consultation between departments, and the fact that the assignment of credits and content of courses elsewhere are not taken as a basis for restructuring suggests low mimetic pressure. Normative pressure is limited by the fact that the 3+2 structure is not considered to be the best structure in academic

terms in most departments. In the academic profession excellence is prized over conformity.

2. Competitive pressure

In the exceptions mentioned above in the Switzerland, and in the United Kingdom, changes were promoted before state action was taken. Preliminary interviews with the entrepreneur in the British case suggest that the desire for change in the university was driven through a strong awareness of changes at the European level, and of the potential importance of change for a university with a strong international orientation where maintaining a strong reputation and attracting international students are priorities. In the case of the United Kingdom non-specialised universities, these pressures were lacking, but were also seen in the French Swiss specialised university.

3. Alterations in power structures

The Bologna reform has been both eased by, and has led to, changes in power structures. At the university level, the willingness to change at the French-Swiss specialised university was linked by some observers to a change in leadership at the university. Although it cannot be said whether change was faster, easier or more far-reaching than it would have been under another leadership, in all interviews the importance of the executive leadership in pushing forward far reaching reform was emphasised. In the German-speaking part of the country a strong stance was also taken by the executive board with the rector taking a personal interest that real change should take place. Interest had been shown by an earlier pro-rector at the English general university, but waned under a change of leadership. Here it was suggested that support for the reform had been used as a tool for personal career development.

In terms of precipitating change in power structures, where the changes required were large, the reform led in some cases to an increasing strength of the administration at the university and faculty levels, and the establishing of new organisations to coordinate, support or ease the changes across highly autonomous faculties and departments. How these alterations will affect the university institutions longer term remains to be seen. While the autonomy of universities and departments was in many cases explicitly respected, the potential for increased involvement from the university level remains. A further change seen was the increased participation of

students in decision-making processes in many faculties – as was envisaged in the Prague Communiqué (2001).

8.3 Reform as an opportunity for change

The above analysis of required change suggests that there is a lot of room for embracing and resisting change within the reform. In this section I consider where the reform was an opportunity for change, and where it was seen as constraining action. Opportunity can be investigated in two ways: where the reform was *seen* as an opportunity for change, and where wider changes have actually occurred. Looking at these two elements one can consider where wider changes are more likely.

8.3.1 Where is reform seen as an opportunity?

In interview and in the online survey, respondents were asked to rate the reform on a scale from major constraint to major opportunity. Reviewed at the university level, the results show some marked differences (see figure 8.6) which will be reviewed in the first section. To facilitate analysis, the departments will be dealt with in the groups outlined in table 8.2. It will be shown that whether the reform was seen as a constraint or an opportunity is related to the amount of work needed to make – and difficulty of making – necessary changes.

<Figure 8.6>

Group A: Accommodation

Where few changes are needed to achieve compliance, the reform is seen as more of an opportunity. This was observed in the Netherlands and the French-Swiss general university, with the exception of the History department where an overloaded four year course was re-organised to a 3+2 structure, described as a difficult process involving a huge amount of effort, to some respondents for little gain.

In the French-Swiss specialised university the case is less clear. Although the reform fits with the policy direction of the university leadership, it was considered a constraint by a majority of respondents. The view of the process as a constraint was shared across the two departments studied, and resulted from the technical difficulty of change and the large amount of work involved in making changes that were seen as unnecessary.

Group C: No change

In the English general university there had been, at the time of research, no change, and opinions on the possibilities offered by reform are split in all departments. This suggests that actors certainly aren't predisposed to resist reform, although this is not necessarily an indication of what the final response will be as responses to reform change once it is underway: In the other universities it was reported that change may be resisted at first but if actors have to do it they decide to do it well, or conversely that dissatisfaction grew when it was realised how much work was involved.

Group D: Absorption/Accommodation, low fit

In the English specialised university, where absorption was the norm, opinion is split. Some see the Bologna Process as a chance to make wider changes. Not all actors are happy with a minimalist approach.

Where the new structures were incorporated but there were no fundamental changes to the courses offered responses are mixed. In the Physics department in the Swiss German general university where there was lower initial fit, compliance was straightforward. Here the presence of an entrepreneur and early start put the department at an advantage. Five of the six respondents saw the reform as an opportunity for improvement in the course.

In the specialised university the response in the Mechanical Engineering department was also relatively positive – six of ten respondents felt it offered an opportunity to improve the standard of education in the department – but two respondents reported a constraint, citing the amount of work and technical difficulty of change. Conversely, in the Law department of the general university five of the six respondents saw the reform as a constraint: A large undertaking for a minimal outcome.

In the History department of the Swiss German general university, respondents were divided. Six saw the reform as a constraint, potentially as it permitted a controversial change in the curriculum with the exclusion of Swiss history as a major subject (Bernet 2006), but four saw it as a major opportunity.

Group E: Transformation

The constraint reported in the Dutch general university was in the Law department where the major reform of the curriculum had led to staff cuts, and a major change in the direction of the course offered which could impinge on core understandings. The

interviewee described it as leading to “a loss of great thinkers” (interview 304). However, the majority here still considered the reform to be an opportunity for improvement.

In the Physics department of the specialised university seven of ten respondents saw the reform as a constraint (accounting for all but two of the reports of a constraint across the university). Here the changes in structure hit key areas including the continuity of the degree and the understanding of how a Physics education should progress. The reform was seen as difficult and damaging to the level of education offered.

Summary

Change takes place regardless of whether the reform is an opportunity or constraint, and whether reform is seen as an opportunity or constraint is not a direct effect of the amount of change, but rather whether the change that has taken place was seen as necessary, and worth it for the outcome. The English cases suggests that actors are not predisposed to see change arising from outside the department as a constraint, but the Swiss German cases and French-Swiss general university show that many actors do when it leads to a great deal of work or touches on key aspects of the course. Where change is the norm, in the Netherlands, the reform is an opportunity, unless it impinges on core values, as occurred for some respondents in the Law faculty. The French-Swiss university shows that although change may be welcomed at higher levels and be in line with the aims of the leadership it is not seen as an opportunity within the departments. Based on this analysis, I will now move to considering where actors can take advantage of the opportunity for wider changes.

8.3.2 Where does wider change occur?

In most of the departments where the reform was seen as an opportunity, additional changes had taken place nine years into the process. Here, additional change is that which occurs as a result of the reform, but which is neither stated directly by the Bologna follow-up documents, nor occurs as a necessary direct consequences of those changes, as such new exam times and frequencies are not included. The departments in which wider changes are seen are listed in table 8.3. Examples include: the use of new teaching tools and an emphasis on transferable skills in the Swiss-German History department; rationalisation in the Swiss German general Physics department and the Dutch History department; the development of joint

programmes with another national university in the Physics department of the Dutch specialised university and; the development of inter-faculty Master's programmes in the Mechanical Engineering department of the same organisation.

<Table 8.3>

Table 8.3 suggests that the total amount of change doesn't help us to understand where wider changes have taken place. A better explanatory factor may be changes in the curriculum which have resulted from the switch to the Bachelor/Master system. Large amounts of curriculum change are seen where courses were long and lacking structure, or had large amounts of overlap with other courses, as in all of the History departments studied and Swiss German general Physics department. As occurred at the national level in Switzerland, the new structures could be matched as solutions to these problems, thus permitting previously difficult changes.

Changes in the curriculum accompany, or potentially precipitate, wider changes. In the eight cases where curriculum change was seen, six departments also saw wider changes, compared to only three of eleven departments with no wider curriculum change (table 8.3). A review of the curriculum leads to a new realisation of what could be done better, as was the case in both Swiss History departments, and both departments in the Dutch specialised university. It can also place limitations on what can be done, resulting in changes in content as in the case of the Dutch Law department. In Kingdon's (1984) terms, the Bologna Process created a window of opportunity in some departments in which a change in the policy stream at the European, national and university levels and in the political stream at the national and university levels permitted a review of the overall system of education and the coupling of new solutions to problems being experienced in the department/faculty.

In the French-Swiss general Physics department and Swiss-German Law and Mechanical Engineering departments, an opportunity for improvement was seen, but had not yet been taken at the time of research. These are all departments where the need for major changes in the course was lacking. There were also departments where the reform was seen as a constraint, but wider changes occurred. In the French specialised university the introduction of minor subjects and grants of excellence for incoming Master's level students were part of a university led reform.

In the Swiss-German History department they were forwarded by more reform-minded members of the Seminar.

8.4 How wider changes happen

To summarise, two further mechanisms of change were observed, which facilitate required or additional changes.

1. ***Adoption of new policies to legitimise changes***

At the same time as new possibilities are realised, change at the European level has also opened up opportunities to solve problems that had been difficult to address or even taboo. This occurred at all levels, from the national level in Switzerland, to the departmental level in the Netherlands, but reform would have taken place regardless. In this latter case the ability of the new structures to solve problems of the longer course was a fortunate unexpected outcome of the changes that were taking place anyway, but also increased the willingness to make the changes and to review the course content as well as structure, which in turn opens up the possibility for wider changes.

2. ***Change in perception of what is viable/desirable***

The compulsory changes driven by the Bologna reform have without doubt led to changes in perceptions of how university education can be structured. In the departments studied where the reform was relatively easy and took place early there has been a change in the amount of specialisation, and an increased ability to create cross-curricular Master's level courses. Changes in perceptions of what can and should be done have not allowed the Bologna reform to occur, but have resulted in reform leading to wider changes.

All five drivers of change are summarised in figure 8.7.

<figure 8.7 >

8.5 Responses to the reform and the unintended consequences of reform

The final issue to be addressed within this consideration of response is the impact of the reform on the overall standard of education in the departments studied. It has been shown in the previous section that actors tend towards change where much of the current system could be kept the same, or where change could be driven from within the department rather than enforced from higher levels. As was expected, it is

also in these cases, where key understandings aren't threatened, that the reform was seen to have improved the standard of education, a key example being the largely positive response in the Dutch law department where transformation occurred.

Indeed, the effect on the overall standard of education was in many cases reported to be positive (table 8.4), and national patterns can be seen. The respondents in the United Kingdom and the German-speaking part of Switzerland were less sure of the impact, but the Dutch respondents were generally optimistic, as were those in the French-speaking part of Switzerland, with the exception of the History department. To a certain extent this could be predicted by considering the national systems. In the German-speaking part of Switzerland the Humboldtian ideal separating teaching and learning from state involvement is challenged by the reforms, as is the traditional autonomy of the Anglo-Saxon universities. In the universities with Napoleonic roots external reform is more acceptable. The exception of course is the Dutch universities, but here reform is eased by other factors: taking place in a highly centralised system, with a strong history of reform, and it is in-line with the path.

<Table 8.4>

Table 8.5 below shows the reasons given for a perceived positive impact. These can be divided into benefits of the Bologna reform specifically, and benefits of reform in general. The majority of positive effects were related to the former, for example improved internationalisation reported in the Netherlands and the French Swiss specialised university. In both these cases internationalisation is a particular focus of policy at, respectively, the national or university level. More generally, and as has been shown by the changes that took place, nine respondents saw the benefit of reform as a chance to rethink the degree structure and be creative with solutions. Six of these were in the Netherlands where there has been more time to adapt and reflect on the reform, and less dramatic changes have been necessary to achieve the basics, leaving more space for imaginative solutions. The remaining three respondents were from the French Swiss Law department, the French Swiss Mechanical Engineering department, and the Swiss German History department. In the former new courses have been planned (survey response), in the latter new approaches to teaching have emerged (Interview 702) and the reform has created a platform for the open discussion of problems (survey response).

Other examples of where the Bologna Reform has had a positive, but unintended, impact is in addressing the formally taboo needs of weaker students, giving them a way out and thus reducing drop-out rates (Swiss-German and Dutch History departments), in improving the transparency of courses (French-Swiss specialised university Physics department, and general university History department, Swiss German Mechanical Engineering department), and improving the contact between staff and students (German Swiss Law and Mechanical Engineering departments).

<Table 8.5>

The most damage to education was reported in Switzerland. The negative responses in all universities are summarised in table 8.6. Criticism focuses around the university becoming more school like with structured, fragmented learning patterns and reduced focus on research (Survey responses from the History and Mechanical Engineering departments in the German language region, the French-Swiss History department and specialised universities in the United Kingdom and Swiss-Romande). One respondent describes it as “a levelling of teaching to the lowest standard in Europe” (Survey response, German-Swiss Mechanical Engineering). This is felt most strongly in the Physics and Mechanical Engineering departments, in the English specialised university and the Swiss specialised universities.

<Table 8.6>

Uncertainty concerning the impact of the Bologna Process on the overall standard of education resulted from the lack of difference it had made, but there are stark differences in the reasoning given. On the one hand there were areas where the Bologna Reform hadn’t had an impact yet: As was expected, the timing of the research – a snapshot mid-process – meant that in many cases it was simply too soon to comment. On the other hand, there were departments where the reform would not be allowed to have an impact. In the Swiss German specialised university five of the total twenty-one respondents spread across the two departments felt the undeniable changes in structure would not affect the standard of education: “the quality of education is dependent on content, not structure” (survey response, Mechanical Engineering). The slipping of standards feared by others in the departments would be avoided.

The differences in the reported outcome for education and research can be understood in three ways. First, where reform was seen as more difficult, respondents were less happy with the overall effect (see table 8.7). Where reform was fairly easy, most reported a positive impact. As difficulty increased from this point, so did the leaning towards a negative impact. It should be noted that the reasons identified for difficult reform were largely related to the amount of work required, the lack of students and staff to run a range of Master's programmes, problems with mobility, or the differential rate of change across universities. Second, negative responses were seen in departments less used to reform where the path was more strongly established, or where the process was seen as a step backwards. In these cases the Bologna structures are outside of the accepted boundaries of change.

<Table 8.7>

Third, the timing of change seems to matter. The shock of reform is greater nearer to the time of implementation. Previous reform in the Netherlands and a longer time for adjustment could also explain more positive responses. In the German-Swiss History department the slow acceptance of what had to be done was described as standard: people are unhappy at first then realise they have to and just get on with it (Interview 702). As this challenges Baumgartner and Jones's view that not all changes are acceptable, it will be interesting to see whether these changes are deep and lasting.

8.5 Conclusion

The amount of change that has taken place helps us to understand the level of compliance seen in the chosen departments, but it is not determined by the level of misfit. Misfit is necessary for change, but must also be accompanied by a will to change and by state support which brings the necessary resources for agents of change to be successful. Although the overall response to the reform was one of adapting the new structures to the current ways of working, the standard assumption that institutions are change averse is challenged by the amount of additional change and curriculum change that has occurred.

Change has occurred through 5 mechanisms, two of which – political pressure and competitive pressure – drive change, and three of which – change in power structures, adoption of policies to legitimise change, and altered perceptions of what

is viable or desirable – facilitate necessary or wider changes. Isomorphism is however, at present, limited to increasing structural similarity and similar use of tools across the departments studied.

The findings support the perspective that actors are more open if the new norms are compatible with the collectively shared norms (March and Olsen 1998; Börzel and Risse 2000).The Bologna Reform is seen as an opportunity where its implementation requires fewer changes, and ones that don't impact on key values. Where the reform was easy its overall effect was also seen as positive. Where it was difficult, changing key processes or taking time from other valued activities, its effects were viewed as damaging. The overall positive response suggests that even where reform is seen as top-down and unnecessary, there is a tendency to take the opportunity to make desired changes that were previously difficult, or to review the content, level of transparency and overall standard of education.

The reform has brought a number of benefits above and beyond those laid out in the declaration and follow-up documents. Wider changes occur where reform has led to a rethinking about how things are done, either as a consequence of a need to review the curriculum, or in cases where actors are reform-minded. Having said that, this chapter highlights the impact of forced reform – in some cases actors are unable to maintain the equilibrium avoiding unacceptable changes even where they wish to do so and as a result the standard of education is thought to have suffered.

Tables and Figures

Figure 8.1 Correlation between total change and the level of compliance

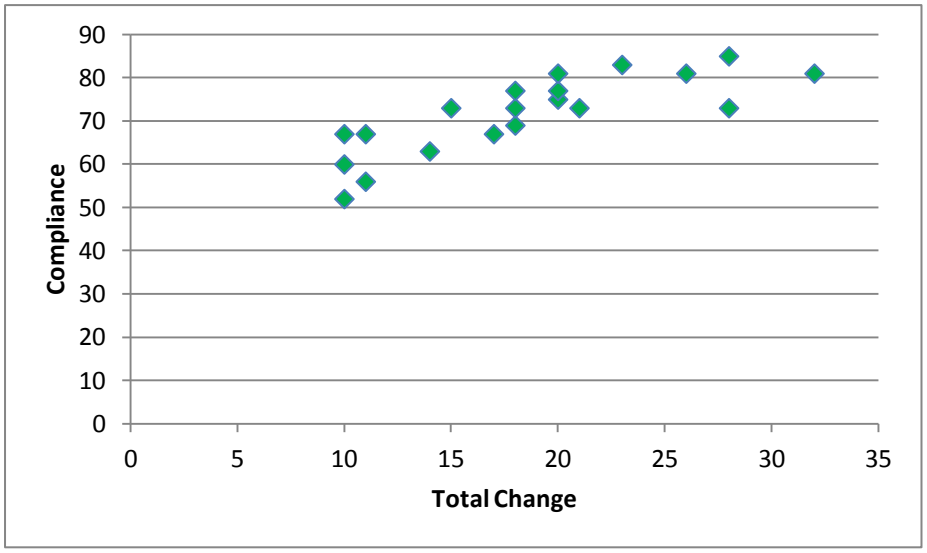


Table 8.1 Amount of change and compliance in departments

Department	Total amount of change	Compliance
UK S P	10	52
UK G H	10	60
UK G P	10	67
UK S ME	11	56
CHF G P	11	67
UK G L	14	63
CHF G H	15	73
CHG G H	17	67
CHG G P	18	69
CHG S P	18	73
NL S P	18	77
NL S ME	20	75
CHF G L	20	77
NL G P	20	81
NL G L	21	73
CHG G L	23	83
CHG S ME	26	81
CHF S ME	28	73
CHF S P	28	85
NL G H	32	81

Figure 8.2 Amount of change with increasing misfit in the French Swiss departments

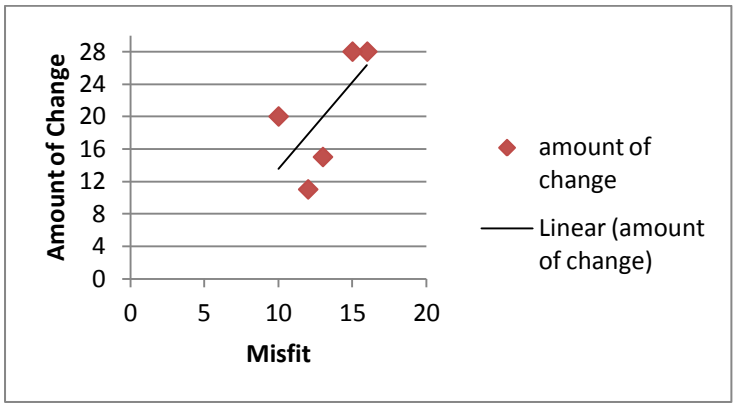


Figure 8.3 Amount of change with increasing misfit in the Dutch departments (excluding the History department)

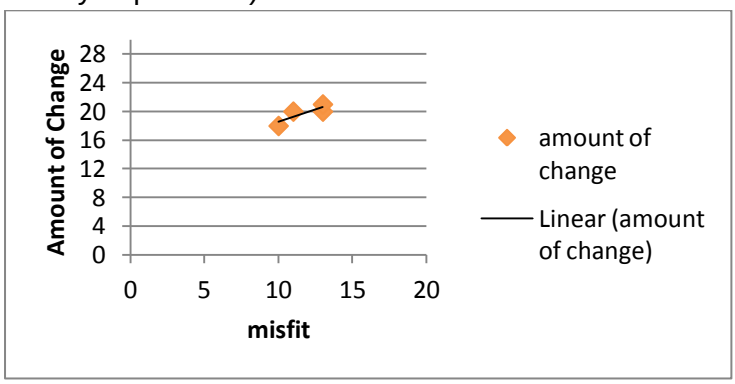


Figure 8.4 Amount of change with increasing misfit in the English departments

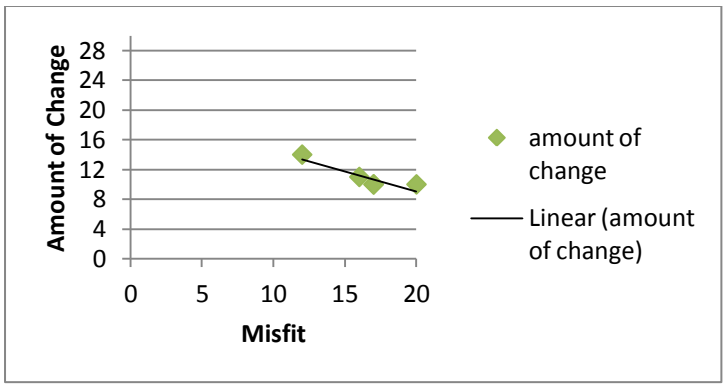


Figure 8.5 Amount of change with increasing misfit in the German Swiss departments

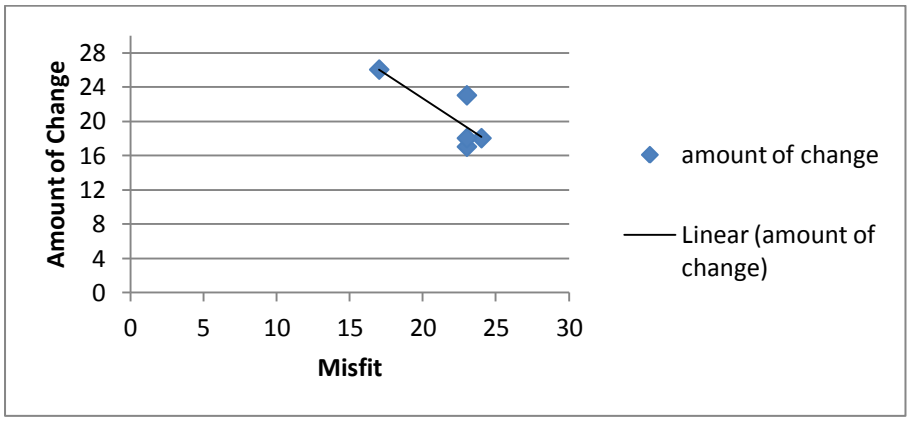


Table 8.2 Grouping the departments based on change and compliance

The Law department in the French Swiss specialised university is omitted from the table as insufficient information was received from the department to permit analysis

	State supports change	State doesn't support change
More in line with path (high fit)	**High compliance: early or easy implementation**	**High compliance**
	Group A: Accommodation Observed in: NL G Physics NL G History NL S Physics NL S Mechanical Engineering CHF G Physics CHF G History CHF S Physics CHF S Mechanical Engineering ***Group E: Transformation*** NL G Law	***Group B: No Change*** Not observed
Low fit, entrepreneur	**High compliance: Early or easy implementation**	**Limited compliance**
	Group D: Accommodation CHG G Physics	***Group D: Frustrated Absorption*** UKS Physics
Less in line with path (low fit)	**High compliance: Change enforced by national level**	**Limited compliance**
	Group D: Accommodation CHG G History CHG G Law CHG S Mechanical Engineering ***Group E: Transformation*** CHG S Physics	***Group D: Absorption*** UK S Mechanical Engineering ***Group C: No change*** UK G Physics UK G History UK G Law

Figure 8.6 Percentages of respondents in each university reporting Bologna Reform as opportunity or constraint

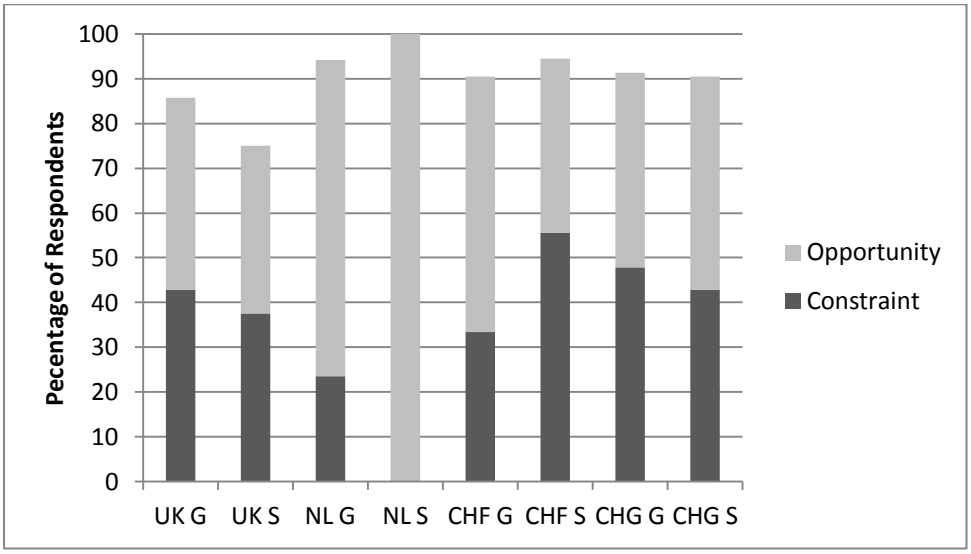


Table 8.3 Additional change in the departments

The Law department in the French Swiss specialsied university is omitted from this table, as insufficient information was received from the department to permit analysis

Department	Total amount of change	Additional change	Amount of change in curriculum
UK G P	10	No	1
UK G H	10	No	1
UK S P	10	No	1
UK S ME	11	No	1
CHF G P	11	No	1
UK G L	14	No	1
CHG G H	14	Yes	4
CHF G H	15	No	4
CHG G P	15	Yes	3
NL S P	18	Yes	4
CHG S P	18	No	1
NL G P	20	Yes	2
NL S ME	20	Yes	3
NL G L	21	Yes	3
CHG G L	24	No	2
CHG S ME	26	No	3
CHF S P	28	Yes	2
CHF S ME	28	Yes	2
NL G H	32	Yes	4

Figure 8.7 Mechanisms of change operating in universities/faculties

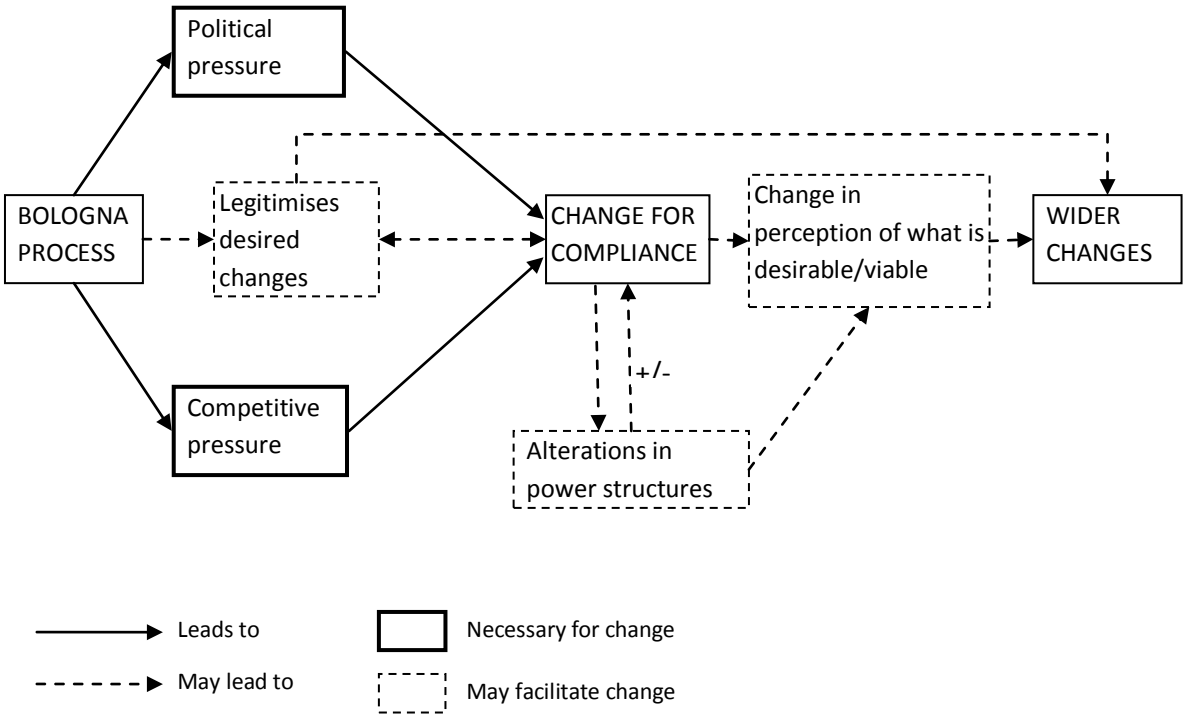


Table 8.4 Effect of the Bologna Process on the overall standard of education

		Effect of Bologna Process on education		
	N	Positive	negative	don't know
UKG Physics	5	0	0	5
UKG History	7	1	0	6
UKG Law	6	0	0	6
UKS Physics	6	1	2	3
UKS M Eng	4	1	0	3
NLG Physics	8	5	0	3
NLG History	3	3	0	0
NLG Law	6	4	0	2
NLS Physics	8	6	0	2
NLS M Eng	5	5	0	0
CHFG Physics	6	4	1	1
CHFG History	10	1	3	6
CHFG Law	6	4	1	1
CHFS Physics	9	5	1	3
CHFS M Eng	9	6	2	1
CHGG Physics	8	4	0	4
CHGG History	14	3	5	6
CHGG Law	7	2	2	3
CHGS Physics	11	2	3	6
CHGS M Eng	10	3	3	4
Total	148	60	23	65

Table 8.5 Reasons for reporting a positive impact of the Bologna Reform

	Number of respondents	% of all respondents
Increased internationalisation	11	9.4
Encourages creative thinking/rethinking of how things should be	9	7.7
Positive impact on education	4	3.4
Increased comparability	3	2.6
Improved quality of student	3	2.6
Increased awareness of other universities and competition	2	1.7
Increased motivation of students	1	0.9
More transparency	1	0.9

Table 8.6 Reasons for reporting a negative impact of the Bologna Reform

	Number of respondents	% of all respondents
Reduces level of education through fragmented learning patterns	8	6.8
Administrative effort	3	2.6
Limits creativity and individuality	3	2.6
Bologna is a political not educational process	2	1.7
Promotes focus on credits rather than following interests	1	0.9
Worse for students	1	0.9

Table 8.7 Cross tabulation of effect of the Bologna Process on the overall standard of education and research, and the ease of implementation in the department

	The ease of implementation							
	Don't know		**Easy/Fairly easy**		**Some problems**		**Fairly difficult**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No**	**%**
Positive	5	50	40	65	16	42	6	21
Negative	2	20	2	3	7	18	8	28
Don't know	3	30	20	32	15	39	15	52
Total	10	100	62	100	38	100	29	100

Chapter 9 Conclusions

This thesis aimed to address how the institutional features of the university affected the impact of the Bologna reform. It was argued that institutional rules and norms, as well as structures, differ between disciplines, and that this may have an effect on the reform. This approach fills a gap in the multi-level analysis of where, why, and to a certain extent how, change occurs within universities as a result of the Bologna Process, and differs to other comparative studies in that it compares change across multiple subject areas within different national or regional systems, and internationally. It has been found that the discipline is not the most important factor in shaping the response, but that important differences can be seen within national systems, and within universities. In the first section of this chapter the major findings of the research are summarised through returning to the key questions. In the second and third sections, six statements relating to the theoretical framework are made in light of the findings outlined at the start of the thesis, and the benefits of the multi-level approach are reflected upon. In the fourth section suggestions are made for further research leading on from this thesis, before the closing comments.

9.1 Main findings

The overarching aim of the thesis was exploratory: to consider whether there are patterns resulting from the Bologna reform that can be understood in ways other than as a result of national differences. It has been seen that the national level remains the most important level in shaping response, but that to limit research to this level is to ignore important differences within national systems.

9.1.1 Answering the key questions

How are universities responding to the Bologna reform?

Response has been considered in three, connected, ways: the level of compliance with the reform, whether the reform has led to wider changes, and how the reform is viewed. Compliance was high in all eight of the universities studied. As was expected, in most departments compliance was achieved by accommodation, as the new structures have been adopted with minimum disruption to previous courses and processes. Although a greater amount of change meant higher levels of compliance, more far reaching changes did not. The two departments where transformation did occur saw neither the greatest amount of change, nor the highest levels of

compliance. In fact relative to other departments in the same university the total amount of change in these departments was low.

Despite this tendency towards stability, most actors were not change averse. Overall, the majority of respondents saw the reform as an opportunity to make adjustments and improvements to the courses offered. The opportunities identified resulted from both the aims of the Bologna Process, and from the process of reform more generally being a time for re-examination of the way things are done. In addition, although there was a great deal of uncertainty about the overall impact of the reform on the standard of education at this early stage, 41% of respondents suggested the impact would be positive, compared to 16% fearing a negative outcome.

Do responses differ along national lines, if so why?

Decisions taken at the national level both determine whether a response is needed and set the room for manoeuvre in the universities. External political pressure was a key driver for change, but this differed between the three countries studied. The level of flexibility is low in the Netherlands in that universities must comply. The delay in national-level action in Switzerland left a window of opportunity for early adopters who had a first mover advantage in shaping the changes made not only at their level, but at higher levels. The strong respect for autonomy in the Swiss system also left room for manoeuvre even after national guidelines came into effect in 2004, leading to more consultation, delegation and inclusion, especially in the Suisse Romande. Up to the time of writing, universities in the United Kingdom were not forced to comply. Actors were able to protect key elements of their courses which academics in other universities were forced to give up, but were also limited in their freedom to respond by lack of state support, leading to low levels of compliance.

The results of the hypotheses testing showed the level of centralisation to be significant in shaping compliance. The importance of this variable may be exaggerated by the “coincidence” that the United Kingdom has both the lowest level of centralisation and the lowest level of compliance, but the Swiss and Dutch cases clearly illustrate that where the government can push through reform it will go through regardless of whether it is welcomed at the departmental level: In the Swiss German universities both compliance and dissatisfaction with the reform were high. Although they were not significant in explaining compliance, three of the other variables (structural fit, compatibility with key values, and competitive pressure) also show

significant differences in variation only at the national level, the exception being the presence of an entrepreneur.

In addition to state control over compliance, other institutional issues came into play at the national level, particularly in the expectations of students and employers. While these don't affect structures they have an impact on the perceived need for change and the acceptance of changes. These elements are however likely to change over time as new norms are established. Already the break between Bachelor and Master degrees has become a key point for not only mobility but also a gap year in Switzerland, compensating for the reduced flexibility and shorter vacations of the 3+2 structure.

As this thesis has focussed on the importance of institutions from a sociological institutionalist perspective, values are given a high weighting. Significant differences in the importance of key values were also seen mainly at the national level. While this didn't shape compliance, it is a further indication that the national level matters over the discipline in shaping not only the formal but also the informal elements of the university as an institution. Finally, the level of satisfaction with the overall outcome of the reform also varies at the national level. The numbers reporting a negative effect are higher in Switzerland than the Netherlands and the United Kingdom.

Are there any other patterns to the response?

In all three aspects of response considered, differences can be seen *within* the national systems. In some universities and departments the Bologna reform has been just that, a major reform of education. In others, up to the time of interview, it had been a non-event. Returning to the assumptions outlined in section 2.4, there are differences in compliance within the national systems, and compliance does differ between subject areas. However, although there are no clear international patterns based on discipline, or on university type, the approach did allow some patterns in response to be unveiled.

The research has highlighted the complex nature of change in this pan-European reform of higher education. Whether change is required, and what constitutes a lesser or greater amount of change is highly context dependent. In the case of the Bologna reform the difficulties of comparison are compounded by the fact that the process is being implemented in a dynamic environment in which the reform is

impacted by earlier changes and is taking place in a context of other changes and pressures. Moreover, the very process of change transforms the changes that are occurring (March and Olsen1989). New opportunities arise, perceptions of what is desirable alter, and changes are used to meet national and local needs.

The conditions necessary for change are adaptational pressure resulting from misfit, a will to change, and the necessary resources to make changes. Resources are controlled by the state but the willingness to change is more local. Within the national pattern, this means that differences are also seen between the departments which have a stronger or weaker European or international focus, a greater or lesser need for cooperation, and a greater or lesser need for reform to meet other needs. This is particularly clear when one considers the role of localised policy entrepreneurs. The presence of an entrepreneur does not necessarily result in higher levels of compliance, but it does result in more action, earlier on, and is potentially associated with greater levels of satisfaction with the process – the Physics department in the Swiss-German general university, where a policy entrepreneur was successful, is the only one in the region where no negative responses were recorded.

In general, whether the reform was seen as an opportunity depends on how much change was necessary to achieve compliance and whether change impacted on key elements of the courses which actors wanted to protect. Where changes were smaller and less threatening to established ways of doing things, or where change was seen as worth making, the reform was seen as an opportunity. This varied from department to department, although the opportunity was seen most strongly in the Netherlands where change has become a norm. Additional changes, beyond those outlined in the Bologna Declaration and follow-up documents occurred most frequently where there was curriculum change. Curriculum changes weren't demanded by the reform, but occurred where the Bologna reform either provided an opportunity to make changes that were needed anyway, or where courses had to be trimmed to fit into the new structures. Actors were most satisfied with the reform where it was in line with their previous interests, or where it provided an opportunity for rethinking courses and making desired changes.

9.2 Theoretical findings

In this section I return to some of the key models and theories put forward in chapters 2 and 3 and highlight the key findings of the research in relation to Clark's triangle of

power, the university as a loosely coupled system, the new institutionalism, punctuated equilibrium and orders of change, and path dependency.

9.2.1 Academics will shape the outcome of reform

The balance between the state, the market and academic power looks rather different from a multilevel perspective than it does at the system level. The state determines whether the reform takes place in all four university systems, but does not shape the details, and therefore the outcome, of reform. The state will to drive through change has clear implications for autonomy: it has overcome the traditional Humboldtian separation of the state from teaching and learning in the German-speaking part of Switzerland (already challenged in the Netherlands). Control of resources limits the autonomy of the Anglo-Saxon universities to respond even when they want to.

Where state will is missing however, the market plays a key role. Although no effect on compliance was proven, within this sample of universities, those with a stronger market orientation were more inclined to ensure they are competitive and have been seen to be more pro-active in their response to the Bologna reform.

In many ways, from a system level analysis, the academic oligarchy appear to be the big losers in the struggle of power resulting from the Bologna reform, but the multilevel approach taken here shows that this is not necessarily the case. Decisions about educational content are delegated to the faculty and departmental levels, but, moreover, looking at the opportunities presented by the reform has shown a strengthened ability of academics to create new specialisations and follow cross-curricular interests. At the system level, in Switzerland at least, it should also not be forgotten that to a large extent the process is driven by academics, and academics have a say in how it is addressed.

9.2.2 The university is a steerable loosely coupled system

The results of the research show the university as a loosely coupled system, but one in which top-down change can be effective. It has been seen that university departments do not respond in uniform ways to changes further up the system, and that while the structures resulting from the Bologna reform are nominally uniform, they differ in terms of content, credit value, student involvement, teacher-student contact, free choice, expectations etc. The interactions between units top-down are

ordered, but intentionally allow a great deal of flexibility in the implementation of changes. At the university and faculty level changes resulting from the reform are limited to structure, content is decided at the departmental level, and approved by faculties, with university level steering groups acting more as consultants and advisors. In the sense that routines, procedures, beliefs, cultures and knowledge differ between departmental units, institutional analysis at this micro level does add to understanding of cross-national reform, but the academic identities are not shared internationally, rather the national system is more important in shaping what education is, and how it should be organised. In this sense the university has been shown to be predominantly national and steerable loosely-coupled organisation.

9.2.3 Institutions have the greatest impact at the national level

One of the key aims of this thesis was to explore whether theories of institutional change can be applied at the departmental level, based on the idea that the discipline matters in shaping academic identities, key values, and the logic of appropriateness. The structures, values and norms pre-dating Bologna did vary from department to department, but there were no strong international patterns based on discipline that impacted the Bologna reform. In some, but not all departments, tension was seen between the new formal rules and the logic of appropriateness to be applied in this period of change. However, the implications of this for change was not as straightforward as was expected.

9.2.4 There is a tendency towards stability in the face of structural change

"Stability" or "equilibrium" has been presented in chapter 3 as a state of dominance of particular norms which are in balance and durable. A first observation is that within the university, due to the loosely coupled nature of the university as an institution, the durability of informal rules, and the fact that the Bologna reform is occurring in a dynamic environment, multiple equilibria exist at once in one institution, and these may be to a greater or lesser extent independent of one another (more or less loosely coupled) and to a greater or lesser aligned. To give an example, the French Swiss specialised university has experienced a change in leadership leading to a stronger focus on the international nature of the university, creating a new path at university level. Within the departments changes at the university level are embraced to a different extent. At the level of the university and in some departments then the

Bologna reform is in line with the direction in which the institution is moving. In other departments it is not.

Some departments are more in equilibrium than others. Although some structures have been in place for a long time, equilibrium includes incremental change being interrupted by lesser or greater reforms. In pragmatic terms this has implications for the assessment of misfit – where the level of fit was applied to new or changing structures it had a different meaning than if applied to stable structures.

In some cases (United Kingdom, German-speaking Switzerland) the structures that had been developed were considered optimal, in others a larger amount of flexibility exists. Where structures have evolved over time and are considered optimal, the tendency was towards protecting these in the face of external pressure. Where previous reforms have occurred recently and the length of the first tier and second tier of degree can be relatively easily changed with little impact on the standard of education, actors were more open to both Bologna-related changes and the wider opportunities presented by the reform. In all departments where there had been recent reforms the new structures were accommodated into the old, regardless of the level of fit.

9.2.5 Transformation can occur through choice or be forced

Whether the Bologna reform has led to transformation, and therefore a potential punctuation in the equilibrium, is not necessarily a result of the objective order of change, but rather of actor choice, as was suggested by Börzel and Risse (2000). In one of the cases where it was observed transformation resulted from a medium amount of adaptational pressure. In the case of the Physics department in the Swiss German specialised university the change was a punctuation enforced by external pressures. Whereas at the institutional level (system-level or even university level) changes could be absorbed, in some departments they could not be.

9.2.6 Timing does matter

If a single equilibrium or stability within an institution or institutional field should not be taken for granted here, neither should “the path”. The key difference between the two concepts is that, from a path-dependent perspective, the path shapes the type of change that is possible, and that timing of implementation is important in shaping the impact that a policy change has. At the university level the Bologna Process has

been built into sequences of internationalisation already occurring at the Swiss-French and Dutch specialised universities. Hitting early in the sequence means it has shaped and enabled these processes. The fact that the international elements were already strongly established in the English specialised university means that it can be fitted where it fits, but is potentially problematic at this level; the changes that will be accepted are limited. Of course this only has an impact on compliance where changes can be resisted. Particularly in relation to the occurrence of wider changes and the level of satisfaction, it has already been shown that at the departmental level the timing is important in two ways: Firstly, the timing in relation to other reforms which can pave the way for change; and secondly, the timing in relation to the need for certain changes which facilitate change. The tendency towards accommodation and absorption however suggest that while the Bologna reform is taken as a chance for improvement and problem solving, it is seldom a break in the path.

9.3 Methodological reflections

Here I will focus on the overall approach advocated in this thesis, the limitations of the operationalisation of variables and the methods of data collection are discussed in the conclusions of chapter 4.

9.3.1 Value of a cross-national comparative approach

As the national level is still the most important level for determining whether changes occur as a result of the Bologna reform, a cross-national comparative approach is the place to start for comparing the overall progress of the reform. At the national level the importance of the state in driving change as well as the national patterns in the level of compliance, amount of change, degree of misfit, key values, and competitive pressure indicate the current dominance of the national level in shaping response. The importance of respecting national differences in higher education mentioned throughout the Bologna documents, and the fact that activities at the European level are limited suggests that this will not change in the near future. However the multi-level approach still has much to offer.

9.3.2 Value of a multi-level approach

The findings presented advocate a multi-level comparative approach for understanding both how policies are made in response to the European level reform, and the impact that they have. In terms of the policy-process, the very fact that in some universities in Switzerland and the United Kingdom change preceded national

action, and at the departmental level at times preceded university guidelines, illustrates that change was not only top-down, and that in higher education systems with high levels of autonomy the lower levels were able to shape changes happening higher up the policy staircase. In addition it was seen that the significance of, and the implications of the Bologna reform vary not only at the national level, but also within national systems: what to one department is a nominal change, or an opportunity to make wider changes, may present major challenges in another department. This points to the importance of comparing experiences within one national system, as well as across systems. In addition, looking at changes within departments opens up the interface of European reforms with what is actually happening in universities: the day-to-day practices and processes of academic work, which is missed in many national-level studies of reform. Longer term, should the European Higher Education Area strengthen and competitive pressures increase in importance, so will the need for examining reform below the national level.

9.4 Suggestions for further work

It is clear that this study is premature in looking at response as an outcome of reform. At this early stage, alongside initial responses, it would perhaps have been useful to consider the effect of the variables on the speed of change: where adjustments occur slower or faster than elsewhere (March and Olsen 1989).

While it gives only a snapshot of compliance during the final years of the first decade of the Bologna reform, where the timing of this study has benefits is in the possibility of repeating the work towards the end of the next decade of implementation to see firstly how the changes evolve, secondly whether wider institutional change can be observed, and thirdly whether time heals the wounds inflicted by the reform and wider changes are eventually seen in all departments.

The other clear extension of the work is geographical, investigating key variables shaping responses to the Bologna reform across other similar North Western European countries, or, for example, looking at the abilities of individual universities and potentially their faculties and departments to take advantage of the reform in the new Eastern European countries participating in the process where the system level challenges, but also the opportunities, posed by reform are far greater.

Areas for further study at the departmental or university level, leading directly from unanswered questions raised here, include the two factors pushing change in addition to political pressure: the role and motivation of entrepreneurs in gaining support for the process, and the importance of the European environment as a source of competitive pressure within universities. These should be pursued as a means to further understanding the Bologna reform as a multi-faceted process both driving, but also providing opportunity, for change and development across universities in Europe.

9.5 Closing comments

> "To misstate, or even merely understate, the relation of the universities to beauty is one kind of error that can be made. A university is among the precious things that can be destroyed" (Scarry, 1998)

Whether the Bologna reform is interpreted as a means to meet difficult national goals, or as a tool for strengthening European involvement in higher education, it has led to varying responses in and within universities. Whether the reform is a "good thing" is a matter of perspective. From a pragmatic point of view the reform is necessary. The thousands of students travelling every year under ERASMUS and other programmes deserve to receive recognition and credit for work carried out elsewhere, and an increasingly international workforce requires that qualifications can be transported more easily from one system to another.

At the national level and within the university, however, the situation is more complex. National systems of higher education have developed over decades and centuries, and in many cases the structure of courses is not incidental, but rather reflects deeply held beliefs concerning the nature of the subject, its content and methods, and how it can best be taught through a progression in knowledge and understanding. As the above quote from Scarry suggests, the university should have a higher purpose in the pursuit of pure knowledge in all disciplines. It should be a platform for observing and questioning society, rather than just meeting society's needs. In this sense the Bologna reform brings much that is destructive to higher education in forced restructuring, shorter timescales and the quantification of modular courses. However, the university is no longer an elite institution. The majority of undergraduates passing through its doors will not pursue knowledge for knowledge's sake, but rather for the purpose of employment. For these students, the Bologna reform has, in many cases,

promoted a focus on teaching, led to more face-to-face time with tutors, and improved their involvement in decision-making, as well as greater transparency in choices at home and abroad, and in what is required of them. In addition the Bachelor qualification, introduced part way through the previous longer degree programme, has reduced dropout rates and provided a path for weaker students. For academics running the courses, in addition to the benefits listed above, it has led to a chance to review and improve curricula, to introduce new specialisations and consider new ways of working at the Master's level. The Bologna reform is a multilevel reform, which ideally will lead to new opportunities for students and for those teaching in higher education without compromising research and the pursuit of excellence in both pure and applied knowledge. As long as space remains in the EHEA for autonomy at all levels, including for the student, the response so far suggests that this is not the end of universities in Europe, nor a new completely beginning. The Bologna reform is rather another change in a dynamic environment which is mediated through and shaped by the national systems, universities and departments within which it is occurring.

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Appendices

Appendix 1 Interview Schedule

Changes in higher education resulting from the Bologna Process.
I would like to begin by asking you a few questions about the way in which the Bologna Process has changed the structure of education in (COUNTRY/UNIVERSITY/DEPARTMENT) up to now. Changes which are expected to take place will be dealt with in a later section.

1. Were the following items in use prior to the implementation of the Bologna Process?

		Q1		Q2	
		Y	N	Y	N
1	Two tier degree structure	1	2	1	2
2	Credit Points	1	2	1	2
3	ECTS credit point system	1	2	1	2
4	Diploma Supplement	1	2	1	2

2. For the items above, please indicate whether they are in place now.

3. How similar is the Bachelor Master structure to the degree structure prior to the Bologna Process?

   1 THE SAME
   2 MINOR DIFFERENCES
   3 MODERATE DIFFERENCES
   4 MAJOR DIFFERENCES
   5 A COMPLETELY NEW SYSTEM?

4. If appropriate, how similar is the credit point system to that which was in place prior to the Bologna Process?

   1 THE SAME
   2 MINOR DIFFERENCES
   3 MODERATE DIFFERENCES
   4 MAJOR DIFFERENCES
   5 A COMPLETELY NEW SYSTEM?

5. Have the previous structures been incorporated into the new system?

   1 Yes ☐
   2 No ☐
   3 Don't know ☐

6. If so, can you please explain how/why?

I am now going to ask you about changes in higher education resulting from the Bologna Process. For each of the items please tell me whether there has been a change, no change, or you don't know. I will start with…

7. Curricular development
    A. Has there been a change?
    B. (IF THERE HAS BEEN A CHANGE) How would you rate the amount of change on a scale of 1-5 where,
    C. (IF THERE HAS BEEN A CHANGE) Please describe the change.

8. How about Inter-institutional cooperation?
    A. Has there been a change?
    B. (IF THERE HAS BEEN A CHANGE) How would you rate the amount of change on a scale of 1-5 where,
    C. (IF THERE HAS BEEN A CHANGE) Please describe the change.

9. How about integrated programmes of study?
    A. Has there been a change?
    B. (IF THERE HAS BEEN A CHANGE) How would you rate the amount of change on a scale of 1-5 where,
    C. (IF THERE HAS BEEN A CHANGE) Please describe the change.

10. And, Mobility of Students?
    A. Has there been a change?
    B. (IF THERE HAS BEEN A CHANGE) How would you rate the amount of change on a scale of 1-5 where,
    C. (IF THERE HAS BEEN A CHANGE) Please describe the change.

11. Next, I want to talk about the Mobility of Grants and Loans.
    A. Has there been a change?
    B. (IF THERE HAS BEEN A CHANGE) How would you rate the amount of change on a scale of 1-5 where,
    C. (IF THERE HAS BEEN A CHANGE) Please describe the change.

12. And the Mobility of Staff.
    A. Has there been a change?
    B. (IF THERE HAS BEEN A CHANGE) How would you rate the amount of change on a scale of 1-5 where,
    C. (IF THERE HAS BEEN A CHANGE) Please describe the amount of change.

13. And, Quality Assurance.
    A. Has there been a change?
    B. (IF THERE HAS BEEN A CHANGE) How would you rate the amount of change on a scale of 1-5 where,
    C. (IF THERE HAS BEEN A CHANGE) Please describe the amount of change.

14. And finally, at the doctoral level,

A. Has there been a change?
B. (IF THERE HAS BEEN A CHANGE) How would you rate the amount of change on a scale of 1-5 where,
C. (IF THERE HAS BEEN A CHANGE) Please describe the amount of change.

15. Are there any other areas in which changes have occurred as a result of the Bologna Process?

Expected changes resulting from the Bologna Process

16. As you know, the Bologna Process isn't finished yet. To what extent do you expect the additional changes by 2010? For each item, please indicate the amount of change you expect.

		NO CHANGE	MINOR CHANGES	MODERATE CHANGE	MAJOR CHANGES	NEW SYSTEM
1	Degree Structure: BA, MA	1	2	3	4	5
2	Credit Points	1	2	3	4	5
3	Diploma Supplement	1	2	3	4	5
4	Curricular development	1	2	3	4	5
5	Inter-institutional cooperation	1	2	3	4	5
6	Integrated programmes of study	1	2	3	4	5
7	Mobility of Students	1	2	3	4	5
8	Mobility of Grants and Loans	1	2	3	4	5
9	Mobility of Staff	1	2	3	4	5
10	Quality Assurance	1	2	3	4	5
11	Doctoral Level	1	2	3	4	5

17. Are there any other areas in which you expect the Bologna Process to bring about change by 2010?

18. Up to what point can students enrol in the old system?

19. When will the last students graduate with the old qualification?

Expectations for higher education

I would now like to ask you about your views concerning what is important in Higher Education.

20. Please refer to part B of your paper and rate the items in terms of their importance in higher education.
    1 UNIMPORTANT
    2 OF LOW IMPORTANCE
    3 IMPORTANT
    4 OF HIGH IMPORTANCE
    5 VERY IMPORTANT

		Q15				
1	Equal admissions policy for national and international students	1	2	3	4	5
2	Equal access for students regardless of economic background	1	2	3	4	5
3	Improved international mobility of students	1	2	3	4	5
4	Comparability of courses of a particular type across international universities	1	2	3	4	5
5	Compatibility of courses of a particular type across international universities	1	2	3	4	5
6	'European' content in degrees (period of time abroad)	1	2	3	4	5
7	Excellence in university teaching	1	2	3	4	5
8	Excellence in university research	1	2	3	4	5
9	A high quality of student (upon admission)	1	2	3	4	5
10	Autonomy of universities	1	2	3	4	5
11	Autonomy of faculties	1	2	3	4	5
12	Autonomy of departments	1	2	3	4	5
13	Autonomy of individual academics	1	2	3	4	5
14	Accountability of universities to industry/employers	1	2	3	4	5
15	Accountability of universities to political authorities	1	2	3	4	5
16	Accountability of universities to local community	1	2	3	4	5
17	Accountability of universities to national society	1	2	3	4	5
18	Development of a European Area of higher education	1	2	3	4	5
19	Economic efficiency of universities	1	2	3	4	5

21. Of the above, which do you think are the three most important? Please give me the number.

22. Of the three you have chosen, which is the most important? Please give me the number.

1 ☐

23. Do you think the Bologna Process has a positive effect, a negative effect, or no effect on these items?

		Positive effect	Negative effect	no effect	Don't know
1	Equal admissions policy for national and international students	☐	☐	☐	☐
2	Equal access for students regardless of economic background	☐	☐	☐	☐
3	Comparability of courses of a particular type across international universities	☐	☐	☐	☐
4	Compatibility of courses of a particular type across international universities	☐	☐	☐	☐
5	Excellence in university teaching	☐	☐	☐	☐
6	Excellence in university research	☐	☐	☐	☐
7	A high quality of student (upon admission)	☐	☐	☐	☐
8	Autonomy of universities	☐	☐	☐	☐
9	Autonomy of faculties	☐	☐	☐	☐
10	Autonomy of departments	☐	☐	☐	☐
11	Autonomy of individual academics	☐	☐	☐	☐
12	Accountability of universities to industry/employers	☐	☐	☐	☐
13	Accountability of universities to political authorities	☐	☐	☐	☐
14	Accountability of universities to local community	☐	☐	☐	☐
15	Accountability of universities to national society	☐	☐	☐	☐
16	Economic efficiency of universities	☐	☐	☐	☐

Applicability to Subject

Now we move on to the implementation of the Bologna Process in your FACULTY/DEPARTMENT. I will begin with a few questions concerning the process of implementation.

24. Can you please give me a brief overview of the process of decision-making regarding the Bologna Process?

25. (If not already answered above) Who makes the decisions regarding the implementation of the process?

26. Are there formal structures in place for consultation in this department/faculty regarding the implementation of the process?

27. Would you describe the process of implementation as more hierarchical or more participative?

1 2 3 4 5

Hierarchical Inclusive

28. Are there any actors (individuals or groups) within this department who have particularly supported the reform?

1 Yes 2 No

If yes, please give details:

29. Are there any actors (groups or individuals) who have been against the reform?

1 Yes 2 No

If yes, please give details:

30. What is your role in the implementation of the Bologna Process?

31. Do any external (university or non-university) actors oversee the implementation of the process in this UNIVERSITY/FACULTY/DEPARTMENT?

1 Yes 2 No

If yes, please elaborate…

(FOR FACULTY AND DEPARTMENTAL ACTORS ONLY)

32. Did you look to or consult any other faculties or departments in this university when considering the implementation of the Bologna Process?

1 Yes 2 No

If yes, please elaborate…

33. Did you look to or consult any other faculties or departments outside this university when considering the implementation of the Bologna Process?

1 Yes 2 No

If yes, please elaborate…

34. When did you begin working on implementing the Bologna Process?

Month _____ Year_____

35. Can you please give an overview of the order in which changes are taking place?

36. When do you expect all the changes currently being made to be in place?

Month _____ Year_____

37. How easy has the process of implementation of the Bologna Process been in your department?

1	NO PROBLEMS, VERY EASY	☐
2	FAIRLY EASY	☐
3	SOME PROBLEMS	☐
4	FAIRLY DIFFICULT	☐
5	MANY PROBLEMS, VERY DIFFICULT	☐

38. Are there any areas in which the implementation of the process has been particularly difficult? Please just give me the numbers.

1	Two tier degree structure (Bachelor/Master)	☐
2	Credit Points	☐
3	Diploma Supplement	☐
4	Curricular development	☐
5	Inter-institutional cooperation	☐
6	Integrated programmes of study	☐
7	Training and Research	☐
8	Mobility of Students	☐
9	Mobility of Grants and Loans	☐
10	Mobility of Staff	☐
11	Quality Assurance	☐

39. (if more than three) Of those areas identified in question 24, please identify the three most problematic. Please just give me the number.

1 MOST DIFFICULT ☐

2 SECOND MOST DIFFICULT ☐

3 THIRD MOST DIFFICULT ☐

40. Why has implementation in these areas been difficult? Please see part D of the handout for some possible reasons. First lets take (1)_____, then (2)_____, then (3)_____.

		31.1	32.2	33.3
1	AMOUNT OF CHANGE NEEDED	☐	☐	☐
2	UNCLEAR POLICY DEFINITION	☐	☐	☐
3	OPPOSITION WITHIN THE DEPARTMENT	☐	☐	☐
4	OPOSITION FROM SOME OTHER SOURCE	☐	☐	☐
5	DIFFICULTY OF IMPLEMENTING IN THIS SUBJECT	☐	☐	☐
6	OTHER	☐	☐	☐

Other: please give details

41. What percentage of the people employed at your level in your department do you feel agree with the changes?

1 0-25% 2 25%-50% 3 50%-75% 4 75%-100%

42. Do you think the Bologna Process will have a positive or negative impact on the overall standard of education in your department?

1 Positive 2 Negative

Please elaborate

43. How would you rate the impact of the Bologna reform on *educational improvement* a scale from a constraint to an opportunity?

1	Major Constraint	☐
2	Constraint	☐
3	Minor constraint	☐
4	No impact	☐
5	Small opportunity	☐
6	Opportunity	☐
7	Big opportunity	☐

Personal information

To finish, I would like to ask you a few questions about yourself.

44. How long have you been working at this university?
45. What is your current position?
46. How much of your time do you spend on the following? Please give a percentage.

    1 Teaching

    2 Research

    3 Administration

47. Where did you study?

1._____

2._____

3._____

48. What did you study?

1._____

2._____

3._____

49. What is the highest degree you have obtained?
50. Have you been employed in any other universities? If so, please give details (where and for how long?)
51. How old are you?
52. Gender

    1 M ☐

    2 F ☐

Thank you for your time. Would you like to receive a summary of the results of this research? If so, please give your name and the address to which the summary should be delivered.

Appendix 2 Summary of interview respondents

Interview number	Role	Level
101	Head of school	Physics school (faculty)
102	Administrator (assistant director)	University
103	Head of department	Physics department
104	Director of learning and teaching	Humanities faculty
105	Senior lecturer	Law department
201	Director of undergraduate studies	Physics department
202	Pro-rector for postgraduate affairs	University level
203	Bologna Entrepreneur	Physics/university
204	Director of undergraduate studies	Mechanical Engineering department
301	Administrator (senior policy advisor)	University
302	Head of department	History department
304	Administrator	Law school
305	Head of academic affairs	Science faculty
401	Administrator (senior policy advisor)	University
402	Director of studies	Faculty of Applied Sciences
403	Head department education and student affairs	Faculty of Mechanical Engineering
501	Professor	Faculty of Arts
502	Administrator	Faculty of Arts
503	Director of general history	History department
504	Professor/student consultant	Physics
505	Former rector	University
506	Administrator	Law faculty
601	Deputy to Dean of Bachelor and Masters School	University
602	Director of teaching	Physics department
603	Director	Mechanical Engineering department
701	Administrator/Researcher	University
702	Senior assistant	History department
703	Study coordinator	Physics department
704	Head of Faculty committee, professor	Faculty of Sciences
705	Administrator/coordinator	Faulty of Arts
706	Administrator	Law faculty
801	Administrator/coordinator	University
802	Administrator/coordinator	University
803	Delegate for academic affairs	Mechanical Engineering department
804	Director of studies	Physics department
805	Professor	Physics department
806	Member of teaching committee	Physics department

Appendix 3 Interview dates

Phase	University	Level	Date
1	Swiss (German) general	University	May 2006
Summer	Swiss (German) general	History department	June 2006
2006	Swiss (German) general	Physics department	June 2006
	Swiss (German) general	Physics faculty	June 2006
	Dutch specialised	University	June 2006
	Dutch specialised	Physics	June 2006
	Dutch specialised	Mechanical Engineering	June 2006
	Swiss (German) general	Faculty of Arts	August 2006
	Swiss (German) general	Law faculty	October 2006
2	Swiss (French) specialised	University level	Feb 2007
Spring	Dutch general	University	Feb 2007
2007	Dutch general	Faculty of Humanities	Feb 2007
	Dutch general	Law faculty	Feb 2007
	Swiss (German) specialised	University	March 2007
	Swiss (German) specialised	Mechanical Engineering	March 2007
3	English general	University	June 2007
Summer	English general	Physics faculty	June 2007
2007	English general	Physics department	June 2007
(online	English general	School of humanities	June 2007
survey)	English specialised	University	June 2007
	English specialised	Physics	June 2007
	English specialised	Physics/University/National	July 2007
4	Swiss (French) general	Faculty of Arts	October 2007
Winter	English general	Law	Dec 2007
2007			
5	Swiss (French) specialised	Physics department	Feb 2008
Spring	Swiss (French) specialised	Mechanical Engineering	Feb 2008
2008	Dutch general	Physics department	Feb 2008
	Swiss (German) specialised	Physics department	Feb 2008
	Swiss (French) general	University	Feb 2008
	Swiss (French) general	Physics department	Feb 2008
	Swiss (French) general	History department	Feb 2008
	English specialised	Mechanical Engineering	March 2008

Appendix 4 Online survey questions

1. In some departments the implementation of the Bologna Process is more challenging than in others. How would you describe the process of implementation of the Bologna Process in your department? (scale No problems, very easy to Many problems, very difficult)
2. Are there any areas in which the implementation of the process has been particularly difficult? If no, please go to question 6.
3. In which areas has the process been difficult to implement? (list)
4. In which ONE of the areas you have identified in question 3 has implementation been most difficult?
5. Please explain
6. The choice to implement the Bologna Process was made at the national level, but the details of the changes to be made were decided at the departmental level. Was this decision making process in your department more hierachical or more inclulsive? (Scale)
7. Were there any actors in your department who were particularly pro-reform? (Y/N) If yes, please give details
8. Were there any actors in your department who were particularly against the reform? (Y/N) If yes, please give details
9. In your department, has the process been more of a constraint or an opportunity? (scale “major constraint” to “major opportunity”)

(For Questions 10 – 15 scale from unimportant to very important)

10. The following items relate to admission to universities. How important do you think they should be?
    a. Equal admissions policy for national and international students
    b. Affirmative action in favour of students from disadvantaged backgrounds
    c. A high quality of student upon admission to university
11. How important do you think the following items should be in Universities?
    a. Excellence in university teaching
    b. Excellence in university research
    c. Economic efficiency of universities
12. In your opinion, how important are the following aspects of autonomy with respect to academic decisions?
    a. Autonomy of universities
    b. Autonomy of faculties
    c. Autonomy of departments
    d. Autonomy of individual academics
13. To whom should a university be accountable? Please rate the importance of accountability to the following groups
    a. Accountability of universities to industry/employers
    b. Accountability of universities to political authorities
    c. Accountability of universities to the local community
    d. Accountability of universities to national society
14. How important do you think it is that university courses are internationally comparable (can be compared in terms of form and substance) and compatible (are more or less equivalent in terms of content)?

    a. Comparability of courses of a particular type internationally
    b. Compatibility of courses of a particular type internationally
15. In your opinion, how important is it to have some European aspect in higher education?
    a. Improved international mobility of students
    b. 'European' content in degrees (a period of time spent abroad)
    c. Development of a European Area of Higher Education

16. Of the values mentioned on the previous page, which do you think are the THREE most important in higher education? (list)
17. Now, please consider whether the Bologna Process has had a positive, negative, or no effect on admissions and excellence in your university (positive, negative, no)
    a. Equal admissions policy for national and international students
    b. Affirmative action in favour of students from disadvantaged backgrounds
    c. A high quality of student upon admission to university
    d. Excellence in university teaching
    e. Excellence in university research
    f. Economic efficiency of universities
18. Is the autonomy of different groups in your university in relation to academic decisions changing as a result of the Bologna Process?
    a. Autonomy of universities
    b. Autonomy of faculties
    c. Autonomy of departments
    d. Autonomy of individual academics
19. Has the Bologna Process had an impact on the accountability of the university to various groups?
    a. Accountability of universities to industry/employers
    b. Accountability of universities to political authorities
    c. Accountability of universities to the local community
    d. Accountability of universities to national society
20. How has the Bologna Process affected the European elements in degrees in your university?
    a. Comparability of courses of a particular type internationally
    b. Compatibility of courses of a particular type internationally
    c. Improved international mobility of students
21. Do you think the overall effect of the Bologna Process on the overall standard of education and research in your department is more positive or negative? (Positive, negative, no effect). Please explain your answer.
22. How long have you worked in your current University? Please indicate in years and months
23. What percentage of your time do you spend on the following?
    a. Teaching
    b. Research
    c. Administration
24. Have you previously been employed in other universities? (Y/N) If yes, where and for how long? Please choose the classification of the university on the list below, and indicate the location and amount of time spent working there e.g. Tokyo, 5 months

a. University in your current home country (other than that in which you are working now)
b. University in another European country
c. University in the USA
d. University in another country

25. What is your date of birth?
26. Is there anything else you would like to add?
27. Would you like to receive a summary of the results of this questionnaire?

Appendix 5 Importance of different values: departmental means

		equal admissions policy for national and international students	affirmative action in favour of students from disadvantaged backgrounds	a high quality of student upon admission to university	excellence in university teaching	excellence in university research	economic efficiency of universities	autonomy of universities	autonomy of faculties	autonomy of departments	autonomy of individual academics
UK G Physics	Mean	3.20	3.33	4.60	5.00	4.40	4.25	4.00	3.00	3.33	3.33
	N	5	3	5	5	5	4	5	3	3	3
	s.d	0.45	1.53	0.55	0.00	0.89	0.96	1.00	1.00	1.15	2.08
UK G History	Mean	4.00	2.43	4.71	4.71	5.00	2.86	4.00	3.71	3.57	4.57
	N	6	7	7	7	7	7	7	7	7	7
	s.d	0.89	1.40	0.76	0.49	0.00	0.69	1.00	0.95	0.79	0.79
UK G Law	Mean	3.71	3.71	4.86	4.71	5.00	3.86	4.43	4.33	4.57	4.57
	N	7	7	7	7	7	7	7	6	7	7
	s.d	1.25	1.11	0.38	0.49	0.00	0.69	0.79	0.82	0.53	0.53
UK S Physics	Mean	3.67	3.33	4.83	4.50	4.50	3.00	3.67	2.67	3.67	3.17
	N	6	6	6	6	6	6	6	6	6	6
	s.d	0.52	0.82	0.41	0.55	0.55	0.00	0.82	1.03	1.21	1.17
UK S Mech Eng	Mean	4.25	3.50	5.00	5.00	5.00	3.67	4.00	2.75	4.75	4.75
	N	4	2	4	4	4	3	4	4	4	4
	s.d	0.96	2.12	0.00	0.00	0.00	0.58	0.82	0.96	0.50	0.50
NL G Physics	Mean	3.50	2.50	4.88	4.29	4.71	3.14	3.88	4.13	4.00	3.43
	N	8	8	8	7	7	7	8	8	8	7
	s.d	0.53	0.76	0.35	0.76	0.49	0.69	0.83	0.99	1.20	0.98
NL G History	Mean	4.00	4.00	4.33	5.00	5.00	3.00	3.33	2.67	2.67	3.67
	N	3	3	3	3	3	3	3	3	3	3
	s.d	1.00	1.00	0.58	0.00	0.00	1.00	0.58	0.58	0.58	1.53
NL G Law	Mean	3.50	3.50	4.00	3.80	4.20	4.00	2.67	3.67	3.50	3.83
	N	6	6	6	5	5	4	6	6	6	6
	s.d	1.05	1.05	0.89	0.84	1.10	1.15	0.82	1.21	1.38	1.17
NL S Physics	Mean	3.75	2.75	3.63	4.63	4.63	2.88	3.75	3.25	3.00	2.63
	N	8	8	8	8	8	8	8	8	8	8
	s.d	0.89	0.71	1.30	0.74	0.74	0.99	1.28	1.04	1.07	1.19
NL S Mech Eng	Mean	3.80	2.60	4.20	4.40	5.00	3.40	4.00	3.20	2.60	3.00
	N	5	5	5	5	5	5	5	5	5	5
	S.d	0.84	1.52	1.30	0.55	0.00	0.89	0.71	0.45	0.55	1.87
CHF G Physics	Mean	3.83	3.80	3.50	4.17	4.67	1.67	4.17	4.17	4.17	4.33
	N	6	5	6	6	6	6	6	6	6	6
	s.d	1.33	1.30	1.52	0.75	0.52	1.21	0.98	0.98	0.98	0.82
CHF G History	Mean	3.90	3.50	4.00	4.50	4.80	3.22	4.38	3.78	3.78	4.25
	N	10	10	9	10	10	9	8	9	9	8
	s.d	0.88	1.27	1.22	0.71	0.42	0.83	0.74	1.09	0.97	0.89
CHF G Law	Mean	3.17	2.33	4.17	4.50	5.00	3.17	4.33	3.83	2.67	4.00
	N	6	6	6	6	6	6	6	6	6	6
	s.d	0.75	0.82	0.75	0.55	0.00	0.41	1.03	0.75	0.82	0.89
CHF S Physics	Mean	3.22	2.75	4.78	4.67	5.00	3.33	4.50	3.88	3.57	3.13
	N	9	8	9	9	9	6	8	8	7	8
	s.d	1.09	1.28	0.44	0.50	0.00	1.51	0.76	0.99	1.27	1.36
CHF S Mech Eng	Mean	3.67	2.50	3.63	4.78	4.44	3.11	4.11	3.88	3.67	3.56
	N	9	8	8	9	9	9	9	8	9	9
	s.d	1.12	1.31	1.30	0.44	0.88	0.78	0.78	1.36	1.22	1.01
CHG G Physics	Mean	3.25	2.13	4.13	4.38	4.75	3.50	3.75	4.25	4.13	3.63
	N	8	8	8	8	8	8	8	8	8	8
	s.d	1.49	0.83	0.83	0.52	0.46	0.93	0.71	0.71	0.64	1.06
CHG G History	Mean	3.92	3.33	3.85	4.64	4.93	2.23	4.00	3.93	4.14	4.29
	N	12	12	13	14	14	13	14	14	14	14
	s.d	1.08	1.50	0.90	0.74	0.27	1.01	0.78	1.00	0.95	0.73
CHG G Law	Mean	3.86	3.43	4.57	4.29	4.86	2.86	4.14	4.14	3.86	4.14
	N	7	7	7	7	7	7	7	7	7	7
	s.d	0.90	0.98	0.79	0.76	0.38	0.38	0.69	0.38	0.38	0.38
CHG S Physics	Mean	2.92	3.09	4.46	4.75	5.00	2.67	4.54	4.23	4.23	3.92
	N	12	11	13	12	12	12	13	13	13	13
	s.d	1.44	1.45	0.97	0.45	0.00	0.78	0.78	0.83	0.83	1.32
CHG S Law	Mean	3.40	2.40	4.50	4.50	4.60	3.00	4.70	4.44	4.10	4.60
	N	10	10	10	10	10	9	10	9	10	10
	s.d	1.17	1.07	0.71	0.71	0.97	0.50	0.48	0.73	0.88	0.84
Total	Mean	3.59	2.98	4.30	4.56	4.78	3.04	4.08	3.82	3.79	3.88
	N	147	140	148	148	148	139	148	144	146	145
	s.d	1.05	1.23	0.95	0.62	0.54	0.96	0.88	1.00	1.03	1.14

		accountability of universities to industry/ employers	accountability of universities to political authorities	accountability of universities to local community	accountability of universities to national society	comparability of courses of a particular type	compatibility of courses of a particular type	improved international mobility of students	"European" content in degrees (a period of time spent abroad)	development of a European area of higher education
UK G Physics	Mean	3.00	1.75	3.20	4.40	3.20	2.40	2.40	1.60	2.00
	N	4	4	5	5	5	5	5	5	3
	s.d	0.82	0.50	1.64	0.55	1.30	0.55	0.55	0.55	1.00
UK G History	Mean	1.29	2.14	2.71	3.86	3.43	2.43	3.43	2.29	2.43
	N	7	7	7	7	7	7	7	7	7
	s.d	0.49	1.07	0.49	1.07	1.13	0.98	0.79	0.76	0.98
UK G Law	Mean	3.14	2.86	3.00	3.43	2.50	2.86	4.29	3.14	3.29
	N	7	7	7	7	6	7	7	7	7
	s.d	1.21	1.21	1.15	1.40	0.55	0.90	0.76	0.90	1.11
UK S Physics	Mean	3.00	2.50	2.83	4.50	3.50	3.00	4.17	3.17	2.50
	N	6	6	6	6	6	6	6	6	6
	s.d	0.63	1.22	0.75	0.55	1.05	0.89	0.75	0.75	0.84
UK S Mech Eng	Mean	3.00	2.25	1.75	4.50	4.00	3.75	4.00	3.50	3.75
	N	4	4	4	4	4	4	4	4	4
	s.d	1.15	0.96	0.96	0.58	0.82	0.96	0.00	0.58	0.96
NL G Physics	Mean	2.38	3.13	2.29	4.00	3.25	3.25	3.50	2.38	3.00
	N	8	8	7	8	8	8	8	8	7
	s.d	0.74	0.64	0.49	0.93	1.28	1.16	0.53	0.52	0.82
NL G History	Mean	2.33	3.00	2.33	2.67	2.67	4.33	4.00	3.67	4.00
	N	3	3	3	3	3	3	3	3	3
	s.d	0.58	1.00	0.58	0.58	0.58	0.58	1.00	1.15	1.00
NL G Law	Mean	1.80	3.40	1.60	4.60	3.60	3.33	3.60	3.80	3.20
	N	5	5	5	5	5	6	5	5	5
	s.d	1.30	1.14	1.34	0.55	0.55	0.52	0.55	0.84	1.10
NL S Physics	Mean	2.38	3.25	2.75	4.38	3.38	2.75	4.14	3.29	3.43
	N	8	8	8	8	8	8	7	7	7
	s.d	0.74	0.89	1.16	0.74	1.06	0.89	0.90	0.95	1.51
NL S Mech Eng	Mean	2.60	3.00	1.40	4.40	3.80	3.60	3.75	3.50	3.33
	N	5	5	5	5	5	5	4	4	3
	S.d	0.55	1.00	0.55	0.89	1.10	1.52	0.50	1.00	1.53
CHF G Physics	Mean	2.60	2.00	3.40	3.80	2.83	2.33	3.67	2.50	3.67
	N	5	5	5	5	6	6	6	6	6
	s.d	1.52	1.58	1.52	1.79	1.17	1.37	0.82	0.84	1.21
CHF G History	Mean	2.33	3.13	3.44	4.11	3.22	3.11	3.90	3.20	3.00
	N	9	8	9	9	9	9	10	10	9
	s.d	1.32	0.99	1.01	0.93	0.97	1.17	1.10	1.23	1.00
CHF G Law	Mean	2.00	3.17	2.83	3.33	2.67	2.33	3.67	3.00	3.17
	N	6	6	6	6	6	6	6	6	6
	s.d	0.89	0.98	0.75	0.82	0.82	1.03	1.03	1.10	0.75
CHF S Physics	Mean	2.63	3.67	2.63	3.44	4.14	3.71	3.57	2.86	2.14
	N	8	9	8	9	7	7	7	7	7
	s.d	1.19	1.12	1.60	1.51	0.90	1.11	1.13	1.07	1.57
CHF S Mech Eng	Mean	2.57	3.33	2.78	4.25	3.56	3.50	3.89	2.63	3.67
	N	7	9	9	8	9	8	9	8	9
	s.d	1.27	1.50	1.39	1.39	1.13	1.41	1.54	1.30	1.58
CHG G Physics	Mean	2.50	3.38	3.63	4.38	3.75	2.88	3.86	3.14	2.57
	N	8	8	8	8	8	8	7	7	7
	s.d	1.20	0.92	1.41	0.74	0.46	0.83	1.21	1.35	1.27
CHG G History	Mean	1.69	3.08	2.92	3.54	2.50	3.00	3.46	3.25	2.73
	N	13	12	13	13	12	12	13	12	11
	s.d	1.03	1.44	1.12	1.13	1.17	0.60	1.20	1.42	1.35
CHG G Law	Mean	2.43	3.00	3.29	3.86	2.71	2.57	3.20	2.67	2.60
	N	7	7	7	7	7	7	5	6	5
	s.d	1.13	1.29	1.11	0.69	0.76	1.27	0.45	0.52	1.14
CHG S Physics	Mean	2.85	3.00	2.54	4.31	2.75	2.25	3.00	2.15	2.38
	N	13	13	13	13	12	12	13	13	13
	s.d	1.14	0.82	0.88	0.75	1.36	0.97	0.91	0.99	1.12
CHG S Law	Mean	3.20	2.70	2.70	4.20	2.67	2.56	3.10	2.60	2.50
	N	10	10	10	10	9	9	10	10	10
	s.d	0.79	0.67	1.06	0.92	1.12	0.88	1.20	0.84	0.97
Total	Mean	2.47	2.96	2.77	4.01	3.16	2.92	3.59	2.85	2.90
	N	143	144	145	146	142	143	142	141	135
	s.d	1.09	1.11	1.16	1.03	1.09	1.07	1.01	1.07	1.21

Appendix 6 Level of fit in university departments

	UK General			UK Specialised	
	Physics	**History**	**Law**	**Physics**	**Mech Eng**
Policy Goals misfit	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**	**LOW**
Comparability and compatibility	Medium	Medium	Medium	Low	Low
Framework for QA	None	None	None	None	None
Improved student mobility	Medium	Low	None	None	None
Improved staff mobility	Low	Low	Low	Low	Low
Promotion of EHEA	Medium	Medium	Low	Medium	Low
Problem solving approach misfit	**MEDIUM**	**MEDIUM**	**LOW**	**MEDIUM**	**MEDIUM**
2-tier degrees	Medium	Low	Low	Medium	Medium
Use of credits	Medium	Low	Low	Medium	Medium
Use of DS	Low	Low	Low	Low	Low
Promotion of European dimension	Low	Medium	Low	Low	Low
Regulatory standards misfit	**MEDIUM**	**MEDIUM**	**LOW**	**MEDIUM**	**MEDIUM**
Stringent assessment QA	None	None	None	None	None
ECTS compatible	Low	Low	Low	Low	Low
3 year Bachelor, 2 year Master	Medium	Low	Low	Medium	Medium
Modular structure	None	Medium	None	None	None
Polity misfit	*Medium*	*Low*	*Low*	*Medium*	*Medium*
Overall misfit	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**

	NL General			NL Specialised	
	Physics	**History**	**Law**	**Physics**	**Mech Eng**
Policy Goals misfit	**LOW**	**LOW**	**LOW**	**LOW**	**LOW**
Comparability and compatibility	Low	Low	Low	Low	Low
Framework for QA	Low	Low	Low	Low	Low
Improved student mobility	Low	None	Low	None	Low
Improved staff mobility	Low	Low	Low	Low	Low
Promotion of EHEA	Low	None	Low	Low	Low
Problem solving approach misfit	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**
2-tier degrees	Medium	Low	Medium	None	None
Use of credits	None	None	None	None	None
Use of DS	Low	Low	Low	Low	Low
Promotion of European dimension	Medium	Medium	Low	Medium	Medium
Regulatory standards misfit	**LOW**	**MEDIUM**	**MEDIUM**	**LOW**	**LOW**
Stringent assessment QA	Low	Low	Low	Low	Low
ECTS compatible	Low	Low	Low	Low	Low
3 year Bachelor, 2 year Master	Low	Medium	Medium	Low	Low
Modular structure	None	None	None	None	None
Polity misfit	*None*	*None*	*None*	*None*	*None*
Overall misfit	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**

	CHF General			CHF Specialised	
	Physics	**History**	**Law**	**Physics**	**Mech Eng**
Policy Goals misfit	**MEDIUM**	**LOW**	**MEDIUM**	**MEDIUM**	**LOW**
Comparability and compatibility	Medium	Low	Medium	Low	Low
Framework for QA	None	None	None	Low	Low
Improved student mobility	Low	Low	Low	Low	Low
Improved staff mobility	Medium	Low	Low	Low	Low
Promotion of EHEA	Low	Low	Low	Medium	Low
Problem solving approach misfit	**MEDIUM**	**MEDIUM**	**LOW**	**MEDIUM**	**MEDIUM**
2-tier degrees	None	Medium	None	Low	Low
Use of credits	None	None	None	Low	Low
Use of DS	Low	Low	Low	Low	Low
Promotion of European dimension	Medium	Medium	Low	Medium	Medium
Regulatory standards misfit	**LOW**	**MEDIUM**	**LOW**	**MEDIUM**	**MEDIUM**
Stringent assessment QA	Low	Low	Low	Medium	Medium
ECTS compatible	Low	Low	Low	Low	Low
3 year Bachelor, 2 year Master	Low	Medium	Low	Low	Low
Modular structure	None	None	None	Low	Low
Polity misfit	*None*	*None*	*None*	*None*	*None*
Overall misfit	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**

	CHG General			CHG Specialised	
	Physics	**History**	**Law**	**Physics**	**Mech Eng**
Policy Goals misfit	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**
Comparability and compatibility	Low	Medium	Medium	Medium	Medium
Framework for QA	Medium	Medium	Medium	Low	Low
Improved student mobility	Low	None	Low	Low	Low
Improved staff mobility	Low	Low	Low	Low	Low
Promotion of EHEA	Medium	Medium	Medium	Medium	Medium
Problem solving approach misfit	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**
2-tier degrees	Medium	Medium	Medium	Medium	Low
Use of credits	Medium	Medium	Medium	Medium	Medium
Use of DS	Low	Low	Low	Low	Low
Promotion of European dimension	Medium	Medium	Low	Medium	Medium
Regulatory standards misfit	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**
Stringent assessment QA	Medium	Medium	Medium	Medium	Medium
ECTS compatible	Medium	Medium	Medium	Medium	Low
3 year Bachelor, 2 year Master	Medium	Medium	Medium	Medium	Low
Modular structure	Medium	Low	Low	Low	Low
Polity misfit	*Low*	*Low*	*Low*	*Low*	*None*
Overall misfit	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**	**MEDIUM**

Appendix 7 Compatibility scores for each department

	Autonomy					Excellence				Accountability				
	university	faculties	departments	academics	Autonomy Compatibility	upon admission	research	teaching	Excellence compatibility	industry	politicians	local community	national society	Accountability Compatibility
UK G P	80.00	60.00	66.60	66.60	68.30	92.00	88.00	100.00	93.33	60.00	35.00	64.00	88.00	61.75
UK G H	0.00	0.00	0.00	65.29	16.32	0.00	71.43	67.29	46.24	18.43	30.57	0.00	0.00	12.25
UK G L	0.00	61.86	65.29	65.29	48.11	69.43	71.43	67.29	69.38	44.86	40.86	42.86	49.00	44.39
UK S P	61.17	0.00	0.00	52.83	28.50	80.50	75.00	150.00	101.83	50.00	0.00	47.17	75.00	43.04
UK S ME	100.00	68.75	118.75	118.75	101.56	375.00	125.00	125.00	208.33	75.00	56.25	43.75	112.50	71.88
NL G P	0.00	51.63	100.00	42.88	48.63	244.00	176.63	268.13	229.58	0.00	78.25	0.00	150.00	57.06
NL G H	0.00	0.00	0.00	122.33	30.58	0.00	0.00	166.67	55.56	0.00	100.00	0.00	178.00	69.50
NL G L	89.00	183.50	175.00	127.67	143.79	200.00	210.00	126.67	178.89	30.00	56.67	53.33	230.00	92.50
NL S P	234.38	121.88	75.00	65.75	124.25	136.13	173.63	289.38	199.71	0.00	81.25	68.75	219.00	92.25
NL S ME	2140.00	128.00	156.00	60.00	146.00	336.00	200.00	352.00	296.00	104.00	160.00	28.00	264.00	139.00
CHF G P	139.00	69.50	69.50	72.17	87.54	175.00	155.67	278.00	202.89	86.67	0.00	56.67	63.33	51.67
CHF G H	219.00	189.00	226.80	212.50	211.83	80.00	288.00	270.00	212.67	69.90	62.60	34.40	0.00	41.73
CHF G L	144.33	191.50	44.50	133.33	128.42	139.00	83.33	225.00	149.11	66.67	52.83	47.17	55.50	55.54
CHF S P	200.00	172.44	158.67	139.11	167.56	212.44	111.11	207.56	177.04	58.44	203.89	29.22	76.44	92.00
CHF S ME	319.67	258.67	244.67	158.22	245.31	161.33	98.67	318.67	192.89	57.11	185.00	30.89	188.89	115.47
CHG G P	93.75	106.25	103.25	136.13	109.84	103.25	178.13	219.00	166.79	31.25	42.25	45.38	54.75	43.41
CHG G H	285.71	336.86	354.86	337.07	328.63	55.00	246.50	165.71	155.74	60.36	88.00	62.57	126.43	84.34
CHG G L	236.57	236.57	220.57	177.43	217.79	65.29	277.71	306.43	216.48	34.71	42.86	0.00	0.00	19.39
CHG S P	139.69	130.15	130.15	150.77	137.69	171.54	192.31	182.69	182.18	65.77	115.38	58.62	99.46	84.81
CHG S ME	235.00	222.00	246.00	230.00	233.25	225.00	92.00	225.00	180.67	64.00	108.00	81.00	126.00	94.75

	Equality		Efficiency		European					Total
	Equal admissions	Equality Compatibility	Economic efficiency	Efficiency Compatibility	Compatibility	Comparability	International student mobility	Equal admissions national and international students	European/ international Compatibility	Total Compatibility score
UK G P	66.60	66.60	85.00	85.00	0.00	0.00	0.00	192	48.00	422.98
UK G H	34.71	34.71	0.00	0.00	102.86	97.14	113.33	114.2857	106.90	216.43
UK G L	53.00	53.00	55.14	55.14	81.63	71.43	71.43	106	82.62	352.65
UK S P	111.00	111.00	50.00	50.00	150.00	175.00	250.00	183.5	189.63	524.00
UK S ME	87.50	87.50	91.75	91.75	281.25	300.00	400.00	318.75	325.00	886.02
NL G P	31.25	31.25	117.75	117.75	325.00	325.00	350.00	350	337.50	821.77
NL G H	133.33	133.33	100.00	100.00	144.44	88.89	200.00	133.3333	141.67	530.64
NL G L	116.67	116.67	133.33	133.33	277.78	240.00	360.00	350	306.94	972.13
NL S P	34.38	34.38	36.00	36.00	206.25	210.94	355.10	328.125	275.10	761.69
NL S ME	104.00	104.00	136.00	136.00	216.00	304.00	375.00	304	299.75	1120.75
CHF G P	0.00	0.00	27.83	27.83	155.56	188.89	146.67	127.6667	154.69	524.63
CHF G H	35.00	35.00	96.60	96.60	186.67	193.33	216.67	195	197.92	795.73
CHF G L	38.83	38.83	0.00	0.00	155.56	177.78	183.33	264.1667	195.21	567.11
CHF S P	30.56	30.56	74.00	74.00	288.89	322.22	312.50	250.4444	293.51	834.66
CHF S ME	27.78	27.78	69.11	69.11	272.22	316.05	340.28	285.4444	303.50	954.05
CHG G P	0.00	0.00	131.25	131.25	215.63	281.25	165.31	243.75	226.48	677.77
CHG G H	47.57	47.57	47.79	47.79	128.57	107.14	159.76	112	126.87	790.93
CHG G L	98.00	98.00	81.71	81.71	183.67	193.88	266.67	275.7143	229.98	863.35
CHG S P	95.08	95.08	143.77	143.77	103.85	148.08	120.00	179.6923	137.90	781.43
CHG S ME	72.00	72.00	180.00	180.00	204.44	160.00	172.22	204	185.17	945.83

Appendix 8 Centralisation scores and sources of funding for chosen universities

Area of Autonomy		University							
		UK G	UK S	NL G	NL S	CHF G	CHF S	CHG G	CHG S
Organisational									
academic administrative structures		0	0	1	1	1	1	1	1
Governing bodies	framework for decision making bodies	1	1	3	3	2	2	2	2
	external members	1	1	3	3	3	3	3	3
Executive leadership	Selection	3	3	3	3	2	2	2	2
	Qualifications	0	0	0	0	0	0	0	0
	term in office	1	1	1	1	1	3	1	3
	type or rectorship	0	0	0	0	0	0	0	0
	Total Organisational	6	6	11	11	9	11	9	11
Financial									
funding framework	budget type	1	1	1	1	1	1	1	1
	intermediary bodies	1	1	3	3	3	3	3	3
	financial reporting	1	1	1	1	1	1	1	1
	financial auditing	1	1	1	1	1	1	1	1
Financial capacity	keep surplus state funding	1	1	0	0	0	0	0	0
	setting tuition fees	1	1	3	3	3	3	3	3
	borrow money	0	0	0	0	1	1	1	1
	raise money	1	1	3	3	3	3	3	3
	ownership of buildings	0	0	0	0	0	0	0	0
	free to sell real estate	0	0	0	0	0	0	0	0
Proportion of income from state		1.21	1.01	2.28	2.46	3.00	2.78	2.51	2.90
	Total Financial	8.21	8.01	14.28	14.46	16.00	15.78	15.51	15.90
Staffing Autonomy									
recruitment of staff	ability to recruit	0	0	0	0	0	0	0	0
	appointment of senior staff	1	1	1	1	1	1	1	1
	civil servants	0	0	0	0	1	2	1	2
	Salaries	0	0	0	0	0	0	0	0
	individual salaries	1	1	1	1	1	1	1	1
	Total Staffing	2	2	2	2	3	4	3	4
Academic Autonomy									
academic profile		2	2	3	3	0	0	0	0
degree programmes	introduction of degrees	3	3	2	2	1	1	1	1
Student admissions	overall no. Students	2	2	3	3	3	3	3	3
	no. per discipline	2	2	1	1	3	3	3	3
	admission mechanisms	0	0	3	3	3	3	3	3
	student quotas	1	1	1	1	3	3	3	3
Policy implementation	Implementation of Bologna reform	2	2	3	3	1	1	1	1
	Total Academic	12	12	16	16	14	14	14	14
	Grand total	28.21	28.01	43.28	43.46	42.00	44.78	41.51	44.90

Percentage of funding from government and non-government sources for the English universities, and total funding (2006/07)

Source	General university[6]	Specialised university[7]
HEFCE grants	33.56	27.90
Academic fees and support grants	20.97	15.32
Research grants and contracts	21.22	41.35
Other	24.24	15.43
Total Funding (£)	388759000	556200000

Percentage of funding from government and non-government sources for the Dutch universities (2007)

Source	General university[8]	Specialised university[9]
Government funding	68	68
Contract funding (work for third parties)	12.6	22
College and exam funds	7	10
Other sources	12.4	
Total funding (€)	500389000	473400000

Percentage of funding from government and non-government sources for the French-Swiss universities (2007)

Source	General university[10]	Specialised university[11]
Federal	27	76.8
Cantonal (home and other)	57	-
Student fees[12] and	4.2	23.2
Third-party funds	6	
Other sources	5.8	
Total funding (CHF)	572204218	554728000

Percentage of funding from government and non-government sources for the Swiss German universities (2007)

Source	General university[13]	Specialised university[14]
Federal	10.4	74.13
Cantonal (home and other)	59.1	-
Student fees	2.3	1.21
Third-party funds	18.7	15.53
Other sources	9.5	9.1
Total funding (CHF)	1008915489	1302324000

[6] Source: University 1 document 2
[7] Source: University 2 document 2
[8] Source: University 3 document 1
[9] Source: Unviersity 4 document 1
[10] Source: University 5 document 4
[11] In the absence of the annual report for the university the figures from the Bundesamt für Statistik were used (www.bfs.admin.ch) [accessed June 2009]. These give only “Hochschulrechnung” and “Dittmittel”
[12] Information on funding from student fees is not available for the specialised university
[13] Source: University 8 document 4
[14] Source: University 7 document 4